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TELEPHONE: CENTRAL 3617
TELEGRAMS: "CHEMICUS,
CANNON, LONDON" (2Wards)

No. 2305.

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MARCH 29, 1924.

SUBSCRIPTION WITH
DIARY 20/- PER ANNUM.
SINGLE COPIES 9d.

Vol. C.

"Torch" Brand Preparations

A Series of Medicinal and Toilet Preparations of the highest quality of British origin & manufacture.

ON THE P.A.T.A.

Bark and Phosphorus Tonic :

Bottles, 1/6 retail, 10/- doz.

Brillantine, Solidified :

Tins, 1/3 retail, 10/- doz.

Cascara, Glycerinated :

2 oz., 4 oz., 1/2, 1/9 retail, 7/6, 12/6 doz.

Chemical Food (Fruit Flavoured) :

4 oz., 8 oz., 16 oz., 1/2, 1/9, 3/- retail, 7/6, 12/6, 21/- doz.

Coconut Oil Shampoo :

Bottles, 1/6 retail, 11/- doz.

Cod-Liver Oil :

4 oz., 8 oz., 16 oz., 1/2, 1/6, 2/6, 4/6 retail, 6/9, 9/-, 15/6, 28/6 doz.

Cod-Liver Oil Emulsion :

4 oz., 8 oz., 16 oz., 1/3, 2/-, 3/6 retail, 9/-, 13/6, 24/- doz.

Embrocation, Universal :

4 oz., 8 oz. (cartoned), 1/3, 2/- retail, 9/-, 15/- doz.

Glycerin of Thymol Compound :

3 1/2 oz., 8 oz., 1/2, 1/9 retail, 7/-, 11/6 doz.

Hair Tonic :

Sprinkler Bottles, 6 oz., 2/6 retail, 18/- doz.

Liver Saline :

8 oz., 1/2 retail, 12/6 doz.

Malt Extract :

1/2, 1, 2, 7 lb., 11 d., 1/4, 2/6, 4/9, 8/- retail, 7/4 1/2, 11/-, 19/6, 38/6, 61/3 doz.

Malt and Oil (15%) :

1/2, 1, 2, 4, 7 lb., 1/2, 1/5, 2/8, 5/-, 8/6 retail, 7/7 1/2, 11/6, 20/6, 38/6, 64/9 doz.

Nasal Balm :

Enamelled Tubes, 1/- retail, 6/6 doz.

Perfumes Concentrated :

1/9 glass tubes (1 doz. show outers), 14/- doz.
3/- " (1/2 doz. "), 24/- doz.

Petroleum Emulsion :

4 oz., 8 oz., 16 oz., 1/3, 2/-, 3/6 retail, 9/-, 13/6, 24/- doz.

Saline, Effervescent :

Bottles, 1/6 retail, 11/6 doz.

Sugar of Milk :

1/2 lb., 1/2 lb., 1 lb., 1/2, 1/9, 3/- retail, 7/3, 12/-, 22/- doz.

Syrup of Figs, Compound :

3 oz., 6 oz. (cartoned), 1/3, 2/3 retail, 9/-, 15/- doz.

Syrup of Hypophosphites Comp.

4 oz., 8 oz. (cartoned), 1/6, 2/6 retail, 11/6, 19/- doz.

Warming Liniment :

4 oz. (cartoned), 1/6 retail, 11/6 doz.

COMPLETE LIST ON APPLICATION.

"Torch" Brand Products are subject to 5% off invoice to the Retail Trade on all direct orders to the value of £10 and upwards in one consignment, exclusive of the cost of packages. "Torch" Brand Malt Extract and Malt and Oil are not included in this arrangement.

Allen & Hanburys Ltd.

Telephone :
Bishopsgate 1122 (6 lines).



Bethnal Green, London, E.

Telegrams :
"Allenburys Stock London."



TRADE MARKS.

ON THE LIST OF
GOVERNMENT CONTRACTORS

MEDALS and AWARDS—
London, 1881 Calcutta, 1884
Vienna, 1883 Chicago, 1893

Telephone—HOP 1831.

Codes used—

“A B C,” 5th Edition.

Lieber’s.

Bentley’s.

Cables—

“EKLIPS, LONDON.”

1880

“**ZINYL**”
(Regd.)

1924



THIS old-established Disinfectant gives a white, milky solution with water, which is non-caustic and does not separate.

“ZINYL” contains 16/17% of Tar Acids and should not be compared with the common “cheap” fluids shipped so largely to the East, testing about 3% only.

“ZINYL” will be found one of the best and most effective Disinfectants on the market, and has been supplied for various Government requirements.

3/6 per gallon; 100 gallons, **3/3**; 250 gallons, **3/-** per gallon.
40-gallon casks free, and 5-gallon and 10-gallon drums extra.

Also attractively put up in pint bottles, **10/-** per dozen.

ALSO

“**ZINYL**” (Surgical)

WITH A CO-EFFICIENT OF 18/20, OR ABOUT 20 TIMES STRONGER THAN PURE PHENOL.

8/6 per gallon

H. E. STEVENSON & CO.

Wholesale Druggists and Manufacturing Chemists

122 Great Suffolk Street, LONDON, S.E.1

FREE! These handsome Display Caskets of P. & L. Toilet Preparations



To those chemists who, during the next few weeks, place an order for one dozen or three dozen of our famous series of Toilet Preparations, contained in pyramid bottles specially designed to stand firmly on the dressing table, we will present, entirely free of charge, one of these handsome display caskets filled with the actual preparations (not dummies).

The casket shown on left is given free with an order totalling one dozen 4 oz. bottles. The larger casket (see below) is given free with an order totalling three dozen 2 oz. bottles.

PIESSE & LUBIN'S TOILET PREPARATIONS

Brilliantine	Eau de Quinine
Bay Rum & Cantharides	Cocoanut Oil Shampoo
Fixative Cream	Toilet Paraffin
Honey and Flowers	Bay Rum

Both profit (75% on cost) and prestige attach to the handling of these preparations, which are the products of a firm having close upon a century's experience of, and an enviable reputation for, perfume distillation.

ACT NOW!

Secure your share of the big business that's being done in these popular-priced, attractively bottled, well-advertised lines. The demand for them is already big, and will assuredly grow. And the free display casket is a silent salesman all the while!

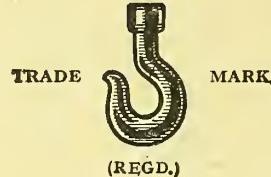
Piesse & Lubin Ltd.

Parfumeurs

Offices & Showrooms:

244 High Holborn, LONDON, W.C.1.





Some Selling Points for Hooker's Malted Milk

Our Advertising will bring enquiries about Hooker's from your customers.

Therefore the following selling points are of value :—

1. Hooker's is the only all-British Malted Milk on the market to-day. It is British in origin, manufacture and proprietorship.
2. The analysis, made by the "Lancet" and printed on every carton, proclaims Hooker's to be a perfectly balanced food, supreme in its nutriment value.
3. Hooker's is entirely free from cane sugar and unconverted starch, and is therefore easily assimilated by the most delicate constitution.
4. For flavour Hooker's is unique. It is equally delicious whether taken hot or cold, and, unlike most beverage foods, it leaves no unpleasant after-taste in the mouth.

Every customer of yours *needs* Hooker's. You do a true service to the public by selling it.

HOOKER'S *Malted Milk*

For prices and terms write to

Thew, HOOKER & Gilbey, Ltd.
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The Gateway to Profitable Business

NO matter how satisfied you may be with the existing brands of Malt Extract or Malt Extract with Cod Liver Oil you are at present selling, here are good reasons why you should not fail to consider adopting the Malt Extract Products supplied by the "House of Wander."

We are one of the largest manufacturers of Malt Extract in the country. Only the finest English grown barley (malted) and the purest Norwegian Cod Liver Oil are used. Manufacture takes place under the best hygienic conditions at our up-to-date factories in the beautiful country district of King's Langley, Hertfordshire.

Prices compare favourably with any on the market. Quality is second to none, whilst our service in showcards and selling leaflets has won marked approval.

Our products possess the dignity and quality to attract new customers and to effect prompt sales. Obtain a sample of our manufacture, and in your own interests and those of your customers, submit it to analysis with others. Give us the opportunity to quote for your requirements.

A. WANDER Ltd., 45, Cowcross St., London, E.C.1.
Works : King's Langley, Herts.

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WE OFFER YOU THE CHOICE OF A WIDE VARIETY OF BEAUTIFUL LABEL DESIGNS. SOME ARE PRINTED IN GREY & GOLD. ALL ARE DIGNIFIED AND SALES-COMPELLING

WRITE FOR THE WHOLE RANGE AND MAKE YOUR CHOICE.



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with Cod Liver Oil
AND PLAIN
MALT EXTRACT





*Build Your Business
on SOUND LINES*

A Sound Line

Manufactured with the precision that characterises all P., D. & Co. products, backed by 30 years experience, standardised to a definite germicidal power, and widely recommended by the dental profession, Euthymol Tooth Paste is a sound line that will bring good profit and increased business to any pharmacist who will take an interest in its sale. Try a display outer on your counter,



Minimum Retail Price
1/3 per tube

Minimum Wholesale Price
10/2 per dozen

Write for Terms

Euthymol

TOOTH PASTE

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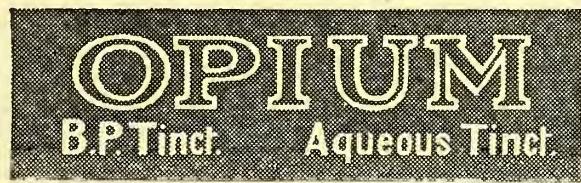
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Infusions.

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Extracts.

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Syr. Glycero-
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NEW KOKO TOILET LINES

Early in April we are placing the following new lines on the market :—

KOKO VANISHING CREAM

1/6 per jar P.A.T.A., 13/6 per doz.

KOKO COMPLEXION POWDER

(In Natural, Rachel, White and Rose)

2/- per box P.A.T.A., 18/- per doz.

KOKO SHAMPOO POWDER DE LUXE

4½d. per pkt. P.A.T.A., 3/4 per doz.

(USUAL WHOLESALE TERMS)

AN extensive advertising campaign has been planned for the new lines together with "KOKO FOR THE HAIR," and space has been booked in practically every magazine for May, and daily papers, including "DAILY MAIL," "MIRROR," "SKETCH," "EXPRESS," "CHRONICLE," "DAILY NEWS," etc., etc., for April.

Place your order NOW, so that you may be ready to supply the big demand that will arise.

All orders for Koko Preparations should be sent to our Sole Distributing Agents, **Messrs. BUTLER & CRISPE, 80/82 Clerkenwell Road, London, E.C.1.**

**KOKO-MARICOPAS CO., LTD.,
16 Bevis Marks, London, E.C.3.**

Telephone:
AVENUE 595.



REGISTERED TRADE MARK.

FREER'S THE ORIGINAL LYSOL

yields a handsome profit to YOU and great satisfaction to your circle of customers.

YOUR PROFIT ON SELLING PRICE 50%

FREER'S LYSOL is a long-established product of the highest efficiency. It is All-British, contains 50% FREE CRESOLS and is packed with aluminium measure.

GUARANTEED HIGHEST EFFICIENCY *Used in hospitals all over the country.*

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BIRMINGHAM :

George Winnall & Son,
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IRELAND :

William F. Hynes,
5 South Frederick Street,
Dublin.

The Cresols & General Antiseptics Co., Ltd.
6 HARDWIDGE STREET, SNOW'S FIELDS,
LONDON, S.E.1

TRADE MARK



MARK

Parfumerie De l'Isle Notre Dame

FLORAL OILS

(CONCENTRATED)

FOR THE PREPARATION OF BRILLANTINES

Highly perfumed oils which can be diluted down to the required strength with pure Mineral Oil.

The odours are extracted direct from the flowers by our special "Enfleurage" Process, and are exact reproductions of the actual flower odours.

They are remarkable for their fineness of quality, and never become rancid.

They can be supplied in any floral odour :

HELIOTROPE	ORANGE
JASMIN	RESEDA
JONQUILLE	ROSE
LILY	TUBEROSE
VIOLET, etc.	

Prices and Samples on application.

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Technical Laboratories : PARIS.

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ZENOBIA LTD.

Have pleasure in informing their customers in the

IRISH FREE STATE

that with the view of saving them the trouble and loss of time entailed by clearing goods through Customs, they have arranged for their Agent Mr. JOHN JEFFERSON

2 Astons Place, DUBLIN

to carry a stock of the leading

ZENOBIA PERFUMES and

ZENOBIA EAU-DE-COLOGNE

Orders for these lines if addressed direct to Mr. JEFFERSON will be executed promptly and duty-paid.

Carriage paid on all orders of the value of £2 and upwards.

ZENOBIA, LIMITED

Manufacturing Perfumers and Toilet Soap Manufacturers,
LOUGHBOROUGH.

The fragrance that has captivated Paris.



LE JADE

Perfume

Perfume, Powder, Soap, and Sachet supplied to retail at :—Perfume 8/-, Powder 2/6, Soap 7/6, Sachet 1/-.

The custom you particularly desire to encourage is attracted by a display of Roger & Gallet Parisian Perfumery and Toilet Aids : for women of distinction in all parts of the world know and prefer Roger & Gallet specialities.

For terms and prices of the full range apply to:
ROGER & GALLET (London) LTD.,
14, POLAND STREET, W.I.



200 YEARS

*Continual demand
for the Original!*

Sell your customers the Eau de Cologne that has been used by every ROYAL COURT in EUROPE, viz. the "GENUINE & ORIGINAL."

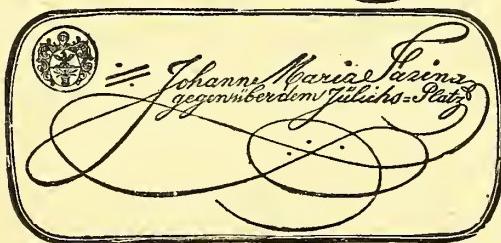
For over 200 years it has been used and its superiority realised by all classes, so much so that over 50,000 dozen alone were sold annually in this country without a penny being spent on Advertising.

To-day it is again coming into its own, as the first and best Eau de Cologne.

Remember, the "GENUINE AND ORIGINAL" was manufactured by JOHANN MARIA FARINA IN 1709, and bears the Label reprinted here:
(No other can be the Genuine or Original.)

Supplies are now available for the Spring and Summer Trade, and prices, with particulars of special terms showing a handsome profit, will be readily forwarded on application to the Sole Agents.

The Genuine & Original EAU de COLOGNE ESTABLISHED 1709.



BLACKALLER & PLEASANCE, 8 Laurence Pountney Hill,
Cannon Street, London, E.C.4.

The 'ESSEN FLOUR PRODUCTS Ltd.'

*Distillers of Essential Oils and
Manufacturers of Perfumery Products*

MYSORE - - S. India

have been appointed Sole
Consignees and Distributors of

MYSORE GOVT. SANDALWOOD OIL

Satisfying all pharmacopœia and possessing an excellent aroma.

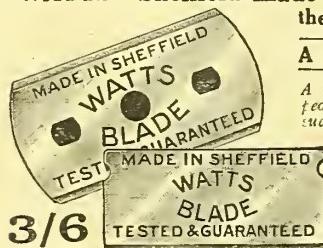
*Samples and prices will be readily supplied
on application to our correspondent at*

'PERFUME HOUSE,' 6-8 Beauchamp Street, London, E.C.1

Telephone : HOLBORN 2499.

Telegrams : "EKDUM LONDON."

Assist British industry by recommending the
'WATTS' Sheffield-made Safety Razor Blade,
the blade of *super-keeness*.



3/6
per doz.
allowing
50% PROFIT
on cost for
the dealer.

A counter display will help.
*A user writes : "Can't understand
people buying foreign blades when
such as yours are obtainable."*

12 Perfect Blades
in Every Dozen.

For Gillette-Type and
Autostrop-type holders

Sole Manufacturers:
Dept. 3, LAMBERT WORKS, SHEFFIELD.
London : 24, REDCROSS ST., E.C.1.
Established over 150 years.

The ARTHOL MANUFACTURING CO. LTD

Manufacturers of

**SYNTHETIC PERFUMES
CONCENTRATED ESSENCES
AROMATIC CHEMICALS
FOR ALL TOILET & PERFUMERY PRODUCTS**

Samples and Prices on application.

SEALAND ROAD, CHESTER.

Telegraphic Address:
SYNTHE TICS, CHESTER.

Telephone No.:
664 CHESTER.

DODGE & OLcott CO., **20 MARK LANE,
LONDON, E.C. 3.**

THE "D & O" BRAND

is the "Standard of Quality" for

OILS of BAY, CEDARWOOD, PATCHOULI, PEPPERMINT,
SASSAFRAS, ETC.

BALSAMS of Copaiba, Peru, Tolu.

TONKA BEANS, Angosturas.

Phone—
CITY 2468.

Telegrams—
"EGDARF, FEN, LONDON."

Maw's Page



Penetration

Penetration is an important characteristic of Meritor Brushes which our press advertisements emphasise over and over again.

It is *the* quality expected in a good hair brush—to penetrate the hair right down to the scalp and brush it thoroughly. That is what your customers expect of the hair brush they purchase from you.

When you sell them a Meritor hair brush you can tell them that the tufts are cut and fixed by hand to ensure perfect penetration—that the materials are chosen carefully with the object of giving long and faithful service—and that you can personally guarantee the brush to do all these things.

PRICES

WHOLESALE

RETAIL

Pure Bristle (Black)

from 100/- to 124/- doz. From 12/6 to 15/6 each.

Ditto (White) from 124/- to 148/- doz. From 15/6 to 18/6 each.

Split Horn from 68/- to 84/- doz. From 8/6 to 10/6 each.

Full price list and particulars on application.

*Imperfection is a sin which we do not countenance
in a Meritor brush. If a Meritor brush fails—
we replace it.*

S. Maw, Son & Sons, Ltd.,

Aldersgate St., London,
and Barnet.



Telephone
City. 7
Private
Branch
Exchange

Telegrams:
Eleven
Cent
London

Cables: **Coder**
Eleven
London **A.B.C.**
4th & 5th
Edition

**ARE YOU STOCKING
THE IDEAL**

**"Beavelour"^{REGD}
POWDER PUFFS?**

"SOFT AS SILK BECAUSE THEY ARE SILK."

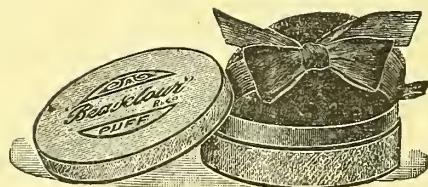
The most striking improvement in POWDER PUFFS ever made.



FLAT "Beavelour"^{REGD} PUFFS

	No. P800	2	2½	3	3½ inch
Min. Retail	6d.	9d.	1/-	1 1/3	each
Price	-	4/-	6/-	8/-	10/- doz.

Each in Transparent Envelope.

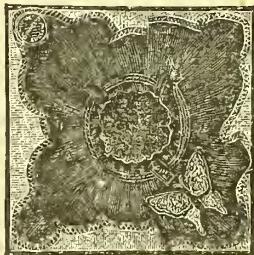


"Beavelour"^{REGD}

BATH PUFFS

	No. P805	4 in.	5 in.
Min. Retail	-	2/6	3/6
Price	-	20/-	28/- dozen

Each in Presentation Gold Box.



"Beavelour"^{REGD}

HANDKERCHIEF PUFFS

With Iridescent Butterfly Decoration.

No. P815

Min. Retail Price	2/6 each	20/- doz.
	Each on Gold Display Card.	

Every genuine "BEAVELOUR" Silk Puff bears our trade mark "BEAVELOUR."

Beware of Inferior Imitations.

Stocked by all Leading Wholesale Houses.

SOLE MANUFACTURERS :

SOLPORT BROTHERS, Ltd., LONDON, E.C.1

*Manufacturers of the well-known "Nerissa" Brand Swansdown,
Wool and Velour Puffs, the Standard of Quality the World Over.*



The essentials of a good business proposition

Firstly, the line must pay a reasonable profit: secondly, it must be in demand: thirdly, it must do its job.

Hawley's I.K.—the insect-killer which *kills*—fulfils all of these to a maximum.

I.K. shows you—the retailer—a profit on cost of **62** per cent., or for a £5 order **71** per cent.: it is an article well known: the manner in which it wipes out *all* insect pests builds up an ever-growing goodwill. Get well ahead of the season and catch your public with an early start.

A £5 order—display terms—carries with it a bonus of 13 to the dozen and a special discount of 5 per cent., showing a profit of £3/11/0 on the outlay.

SEND IN YOUR ORDER NOW

EVANS

EVANS SONS LESCHER & WEBB LTD.

LIVERPOOL

New York

LONDON

Telegraphic Address : "CRESSWELL, HOLB., LONDON."

Telephone : No. 1432 Holborn.

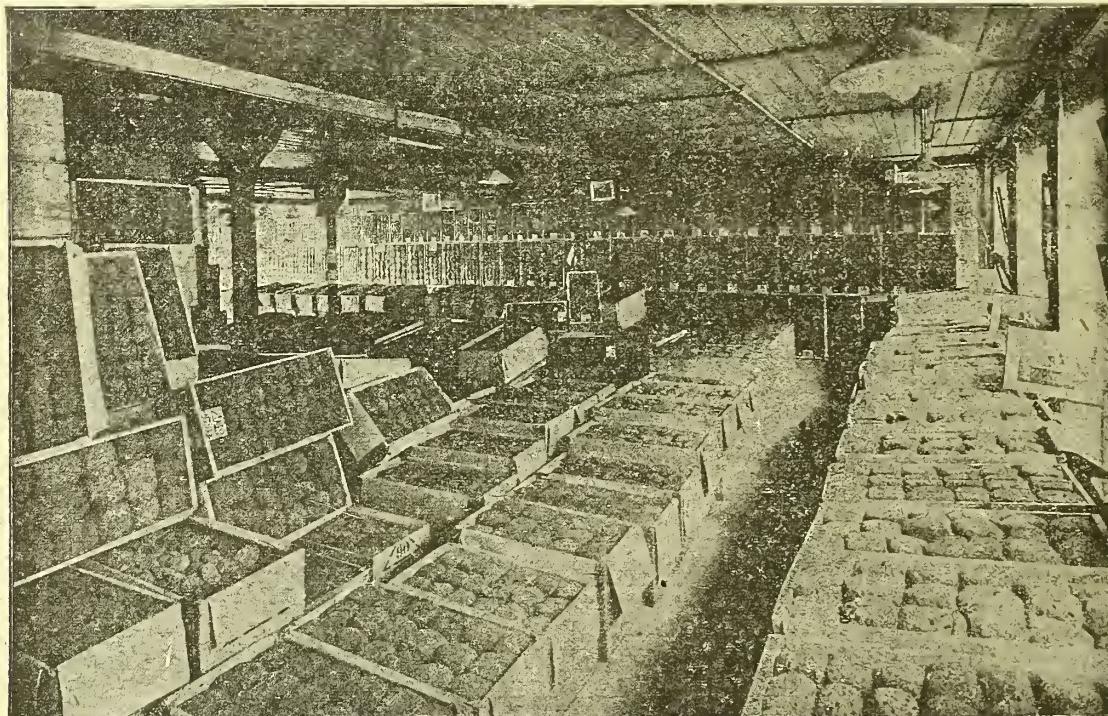
THE SPONGE HOUSE

INTERNATIONAL SPONGE IMPORTERS, LIMITED,

CRESSWELL BROTHERS BRANCH

Sponge Importers, Exporters and Merchants, and Chamois Leather Dressers,
18 and 19 RED LION SQUARE - - LONDON, W.C.1
 WITH THE LARGEST STOCKS OF ALL SPONGES IMPORTED DIRECT BY US FROM THE FISHERIES
 AT LOWEST PRICES.

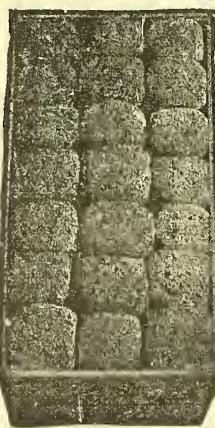
WE INVITE COMPETITION.



Buyers are invited to Call to Inspect our Magnificent Stocks and make their own selections. Lowest Market Prices.
 Absolutely Best Values. The following abridged List will serve as a guide to Buyers when writing.

UNBLEACHED MEDITERRANEAN SPONGES in Original Cases.

THE CONTENTS OF THE FOLLOWING CASES WILL BE PRESS-PACKED AND SENT POST FREE
 TO COLONIAL AND FOREIGN BUYERS WITHIN THE RADIUS OF PARCELS POST.



HONEYCOMB.

Extra Choice,
 Finest Texture and
 Shape.
 The Pick of all
 the Fisheries.

Pieces	Average in Case.	Price per Piece.
300	Toilet at	9d.
250	" "	1/-
200	" "	1/6
160	" "	2/-
140	" "	2/6
120	" "	3/-
100	" "	3/6
90	Medium Bath	4/6
80	" "	5/6
72	" "	6/6
60	" "	7/6
45	Large	8/6
30	" "	10/6

HONEYCOMB.

Toilet & Bath.
 Good 2nd Quality

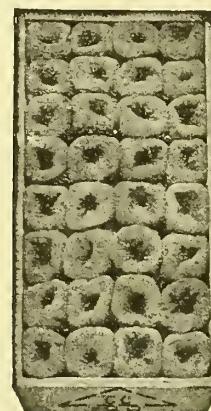
Pieces	Average in Case.	Price per Piece.
270	at	6d.
180	"	9d.
170	"	1/-
160	"	1/6
140	"	2/-
120	"	2/6
110	"	3/-
90	"	3/6
80	"	4/-
75	"	4/6
70	"	5/-
65	"	5/6
60	"	6/6

FINE TURKEY

SOLIDS.

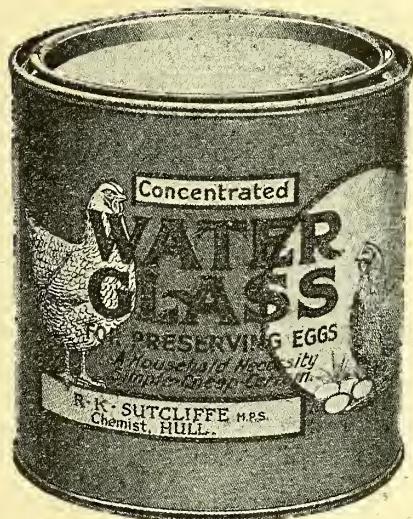
SELECTED
 SHAPES.
 1st Quality

Pieces	Average in Case.	Price per Piece.
Nursery	200	at 1/-
Toilet	150	1/6
"	100	1/9
"	100	2/-
"	80	2/6
Bath	50	3/-
"	36	4/-
"	24	5/-



LOOSE GOODS SPONGES IN SMALL PACKAGES. Fine Turkey, Fine Egyptian and Honeycomb. In 1st, 2nd and 3rd Qualities
 Bleached or unbleached (state which in ordering). On strings of 1 dozen pieces, or loose in bags. At per doz.: 2s., 3s.,
 4s., 6s., 9s., 12s., 15s., 18s., 24s., 30s., 36s., 42s., 48s., 54s., 60s., 66s., 72s. Bleached Cuban. At per String or
 Dozen. Wool, Grass, Yellow and Fine. 1s., 2s., 3s., 4s., 6s., 9s., 12s., 15s., 18s., 24s.

Be first with these two



We have tried to get into this new pack, the whole story of WATER GLASS at a glance. The public are a little hazy about egg preserving. It does not know the ease with which a cheap supply of eggs all the year round can be assured. Just glance at the illustration—the new design simply makes you *want* to try egg preserving.

SHOW IT AND SELL IT

Concentrated
(140 Tw.)

WATER GLASS

in all-tin containers only.

Send us a postcard stating quantity, and
you will find our prices will fit you.

LIBERAL SHOWMATTER WITH ALL ORDERS.

SPECIAL PACKINGS AND PRICES FOR EXPORT.

AYRTON, SAUNDERS & CO. LTD.

Hanover Street



LIVERPOOL

Can you find the cheapness in this new line? It's like asking a riddle, but there is no puzzle in it. The only cheapness is in the price. A complete feeder Outfit in an effectively designed carton—WHITE GLASS TWO-HOLE FEEDER, PURE RUBBER TEAT and VALVE, and a CLEANING BRUSH as well. A display of the cartons would make a fine background for any Pharmacist's window.

THE “CLINIC” FEEDING BOTTLE

1 doz. - - - - -	6/6 per doz.
3 „ - - - - -	@ 6/3 „
6 „ - - - - -	@ 6/- „
12 „ - - - - -	@ 5/10½ „

GINGER

ROOTS—Finest Imported Jamaica and Cochin—whole, bruised, nipped or ground. Guaranteed absolutely genuine.

GINGER

ESSENCES—Soluble. Simple and blended for Ginger Ales, Ginger Beers, Ginger Wines, etc. The true Jamaica flavour.

GINGER

—Our Telegraphic Address : Wire "Ginger, Hull" or write for quotations.

WRITE FOR PRICES, SAMPLES, RECIPES, &c., TO

WILLIAM HAY, LIMITED

Ginger Specialists

Head Office :
WALMSLEY STREET,
HULL.
Telephone : Central 6488.

Telegrams :
"Ginger, Hull."
"Bushworth, London."

London Branch :
3 Browning Street,
Walworth Road, S.E.17.
Telephone : Hop 2753.



EMULSION ANTISEPTIC THROAT PASTILLES (KERFOOT)

THE EFFICACY of these Pastilles is proved by the growing demand for them, which after many years of public trial is now greater than ever before.

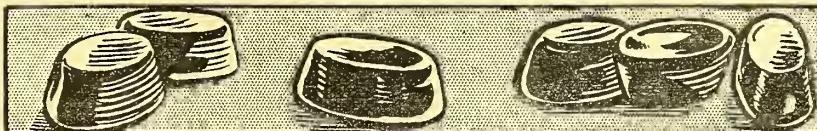
THE FORMULA contains no narcotics, but consists of Menthol, Oil of Eucalyptus, Terebene, Norwegian Pine Oil, Licorice and Gum Arabic.

THE COATING is one which was invented by us many years ago. It is always pleasant to taste and smell.

THE FINISH is hard and glossy and does not collect dust when exposed for sale.

THE SELLING AIDS include wood-veneer showcards, circular counter cards, cartons bearing Chemist's own name, etc.

THE PRICE is 3/- per lb. in bulk, 2 oz. and 4 oz. gold lacquered tins are 7/6 and 13/6 dozen respectively ; 9d. and 1/4 "Marble" tins are 5/6 and 11/- per dozen respectively.



A/239

THOMAS KERFOOT & CO LTD
BARDSTON VALE, LANCASHIRE,
& Bardsley House, London, N.1
ESTABLISHED 1797.

COPYRIGHT

EUCRYL DENTURE POWDER

THERE is a big field for new business in a powder for artificial teeth at the right price. Many thousands who have to wear dentures are only using salt and water or coarse soap powders, and these are woefully inefficient.

Display on your counter EUCRYL DENTURE POWDER and the small card sent with it, and you will find a very ready sale and real new business.

NEW PACKING IN ATTRACTIVE TINS

to retail at 7½d.

ON USUAL GENEROUS BONUS TERMS

EUCRYL LIMITED
SHIRLEY SOUTHAMPTON

A Name that Merit has made Famous

"HARLENE- HAIR-DRILL": TOILET SPECIALITIES

THE extensive and intensive advertising campaign constantly running in connection with "Harlene" continues and will continue to draw immense response from all over the country. Thousands of Free Trial Gift Parcels are dispatched to new applicants every day, thus increasing the already colossal retail business.

Do you stock the following "Quick Sellers"?

- | | |
|--------------------------|--------------------------|
| "Harlene" for the Hair | "Astine" Vanishing Cream |
| "Uzon" Brilliantine | "Astine" Tooth Cream |
| "Cremex" Shampoo Powders | "Astine" Shaving Stick |
| "Astol" for Grey Hair | "Astine" Nail Cream |

No Chemist or Store can afford to be without this Unique Line of Toilet Preparations.

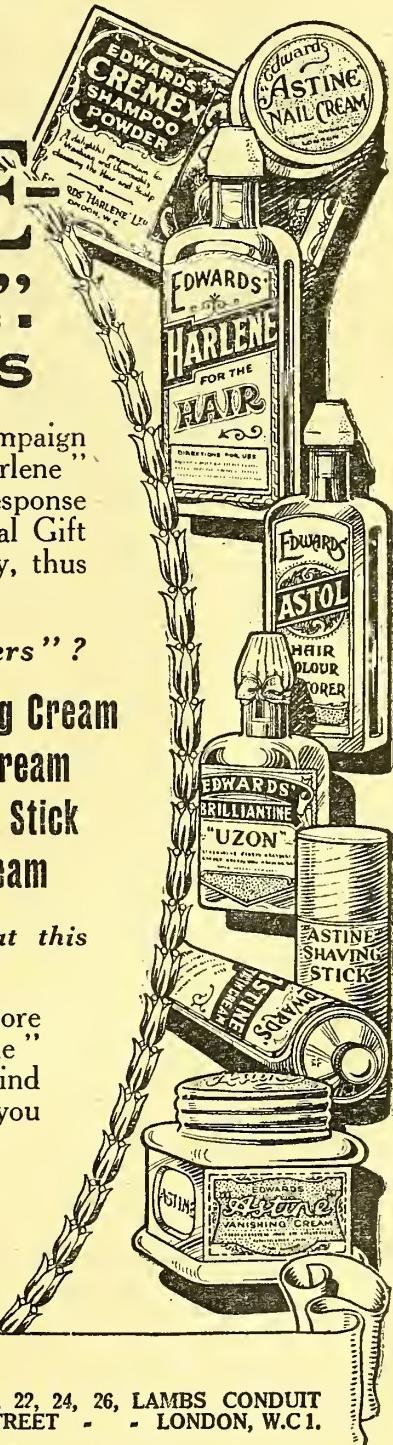
Every day "Harlene-Hair-Drill" becomes more popular and every day the demand for "Harlene" preparations becomes greater. Don't be behind the times and turn away good business because you have not got sufficient stocks.

**PLACE YOUR
ORDER TO-DAY**

For Full Particulars, Terms, etc., write to —

EDWARDS' HARLENE LTD.,

20, 22, 24, 26, LAMBS CONDUIT
STREET - - LONDON, W.C.1.



PRICE'S GIFT of LAVENDER SACHETS

WE have the pleasure to announce that until further notice, we are enclosing with each 6 and 12 cake box (toilet and bath size) of Price's Renowned Old English Lavender Soap



a handsome perfumed satchet filled with the finest lavender flowers. This charming gift is certain to appeal to the public and stimulate the demand for PRICE'S RENOWNED OLD ENGLISH LAVENDER SOAP—the soap in the neat wooden boxes. Your enquiries will be appreciated.

PRICE'S SOAP CO. LTD.,
BLACKFRIARS :: E.C.4.

Works :
GREENWICH.

THE alert Chemist has long since realised the advantages to be derived from handling "LITTO." He knows that "LITTO" stands or falls on its merits, that the quality is uniform, and that he is safe in recommending it.

"LITTO" is the finest preparation yet produced for the hair and faithfully carries out the claims made for it.

Dissatisfied users of "LITTO" are almost unknown.

So sure are we that "LITTO" will stop hair from falling and promote a new growth that we give a guarantee with every bottle, stating that should it fail to do so, the price will be refunded.

This is certainly an innovation so far as hair tonics are concerned, and quickly gets the customers' confidence.

If you are already selling "LITTO," keep same to front of your window—it pays!



If you are not yet co-operating with us, let us send you our illustrated price list, and remember "LITTO" shows an exceptionally big profit.

On the
P.A.T.A.
LIST

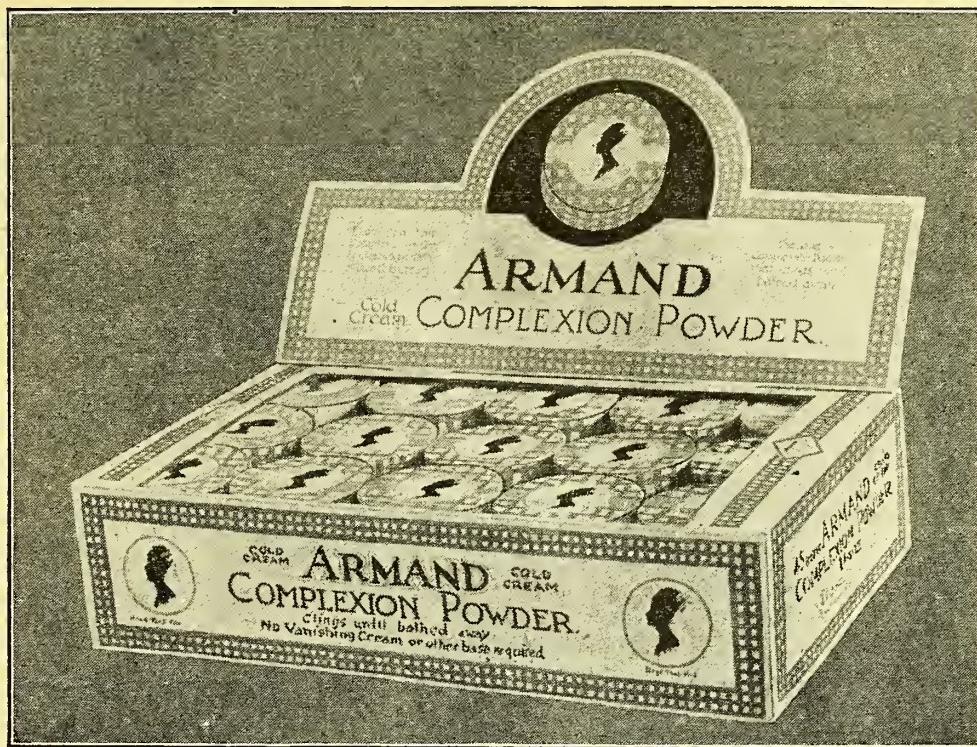
Litto Laboratories, 2 Newington Green, London, N.1

JAKSON'S PEPPERMINT, LAVENDER & CAMOMILE OILS are the BEST.

Produced and Prepared by
**THE LARGEST GROWERS & DISTILLERS
IN ENGLAND.**

Distillery :
J. JAKSON & CO. (Mitcham Rd., 1921), LTD.
Mitcham Road, WEST CROYDON.

AGENTS for the U.K.:
F. NEWBERY & SONS, LTD.
27 & 28 Charterhouse Square, London, E.C.1



This new **1/- TRIAL SIZE** of ARMAND COLD CREAM POWDER not only makes new customers for the **2/-** and **4/-** boxes (for the economy of the larger sizes is obvious) but makes nearly **6d.** a box profit itself.

DISPLAY CARTON of 45 boxes—

yields - - - - -	£2 5 0
(3 dozen with $\frac{3}{4}$ dozen Armand bonus).	

Costs—at 8/3 per dozen with bonus **£1 4 9**

<i>Less 5% for cash in 30 days</i> - - -	1 3
	1 3 6
	£1 1 6

If this package isn't already working for you a postcard will bring it.

Usual assortment, Natural, Brunette (Rachel) and Cream, with three each of White and Rose—or as you wish.

FLORIAN & ARMAND, LTD.

Queensway,

Ponders End,

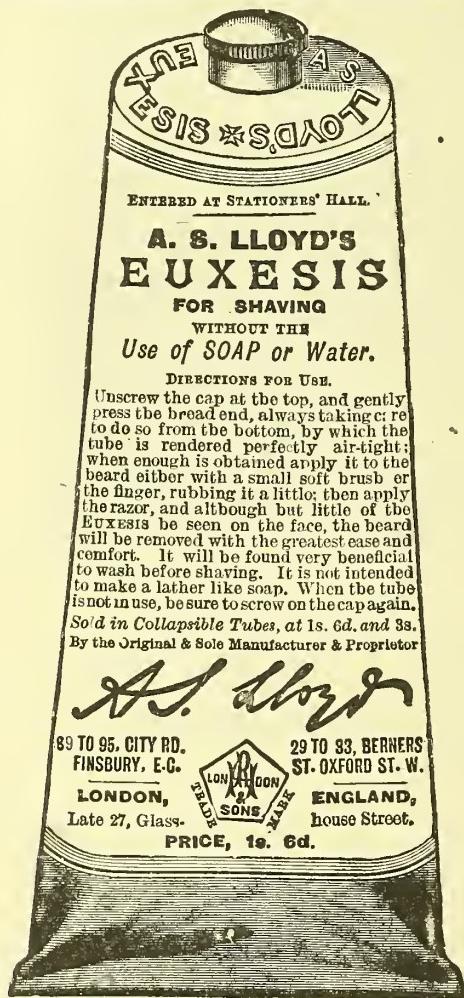
MIDDLESEX.

Telephone No.: Enfield 783.

A. S. LLOYD'S EUXESIS

(THE GENUINE).

For Shaving without Soap, Water, or Brush.



Sold by all Perfumers and Chemists throughout the World.

R. HOVENDEN & SONS having purchased, under an administration suit, the Business of the late A. S. LLOYD, with the Receipt, Trade-Mark, and Goodwill of the celebrated Euxesis, the Trade are cautioned that the original and genuine Euxesis is now manufactured at our Factory ONLY and may be obtained at either of our Warehouses.

PRICES ON APPLICATION.

NOTICE.—THE GENUINE A. S. LLOYD'S EUXESIS bears a label printed in BLACK only on a Yellow ground, with our Trade Mark at the bottom, as Illustration.

Proprietors : **R. HOVENDEN & SONS, LTD.**
LONDON: 89-95 City Road, E.C.1; and 29-33 Berners Street, W.1

DEARBORN (1923) LTD.

37 Gray's Inn Road, London, W.C.1

Toilet Specialties.

	Price per doz.	Selling Price to Retailer P.A.T.A.
PILENTA SOAP ...	10/-	1/-
A complexion soap.		
PROLACTUM ...	10/-	1/-
For the lips.		
PARSIDIUM JELLY ...	10/-	1/-
For wrinkles.		
ALLACITE OF ORANGE BLOSSOM ...	22/6	2/6
A dressing cream.		
BORANIUM ...	22/6	2/6
A hair tonic.		
CLEMINITE ...	22/6	2/6
For a face lotion.		
COLLIANDUM ...	22/6	2/6
For a face tint.		
PERGOL ...	22/6	2/6
A deodorant.		
TEKKO PASTE ...	22/6	2/6
Camphor cream.		
STALLAX ...	22/6	2/6
For a shampoo.		
JETTALINE ...	31/6	3/6
For clearing the skin.		
PHEMINOL ...	36/-	4/-
A depilatory.		
MENNALINE ...	36/-	4/-
For the eyelashes.		
MERCOLIZED WAX... ...	18/- (31/6)	2/- 3/6
A face cream.		
STYMPOL ...	36/-	4/-
For oily complexions and blackheads.		
SILMERINE ...	22 6	2/6
Hair-curling fluid.		
BARSYDE ...	22 6	2/6
Dandruff eradicator.		
TAMMALITE ...	22 6	2/6
For grey and faded hair.		
LIQUID PERGOL ...	31/6	3/6
To check excessive perspiration locally.		
BICROLIUM ...	22/6	2/6
For whitening the hands.		
COCONOIDS ...	31/6	3/6
For figure development.		

The Products of

Messrs. PARKER, BELMONT & CO.

GLYNOL BERRIES ...	36/- (58/6)	4/- 6/6
For obesity.		
SOFT PALERIUM ...	45/-	5/-
For wrinkles.		
LIQUID NAIL POLISH ...	10/-	1/-
Brilliant and lasting.		

Stocked by ALL Wholesale Houses.

COLONIAL DEPOTS AND AGENCIES.

Australia: ALL WHOLESALERS, & DEARBORN (Australia), Ltd., Grace House, Clarence Street, Sydney.
South Africa: LENNON Ltd., Cape Town, etc.
SIVE BROS. & KARNOVSKY, Johannesburg.
India: FRAMJEE & SON, Bombay.
A. L. CHOUDRY, Calcutta.
New Zealand: SHARLAND & CO., Auckland and Wellington.
South America: DEARBORN (South America) Ltd., Calla Salta 264, Buenos Aires.
Straits Settlements & Federated Malay States: MEDICAL HALL, Ltd., Singapore.

A. S. LLOYD'S EUXESIS.

For Shaving without Soap, Water, or Brush.

CAUTION.

The Labels on **GENUINE EUXESIS** bear two signatures—
A. S. Lloyd in Black Ink, and that of his Widow,
Aimée Lloyd, in **RED**. Refuse any other.

**Sole Manufacturers and
Proprietors:** } **AIMÉE LLOYD & CO.**

**23 PANTON STREET (formerly named Spur Street),
HAYMARKET, LONDON, S.W.**

N.B.—When ordering from Wholesale Houses write LLOYD'S EUXESIS (WIDOW'S).

**The "FORT" Brand
PROPHYLACTIC
TOOTH BRUSH**

Each Brush packed in an **Orange Carton**, sealed at Factory, ensures Brush reaching customer in a clean and wholesome condition.

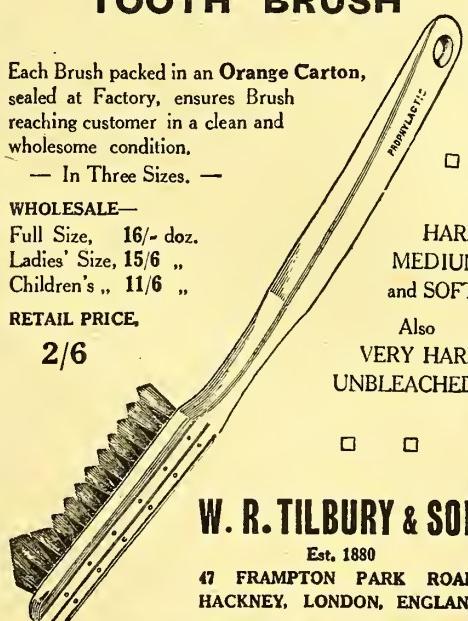
— In Three Sizes. —

WHOLESALE—

Full Size, 16/- doz.
Ladies' Size, 15/6 „
Children's „ 11/6 „

RETAIL PRICE.

2/6



W. R. TILBURY & SON

Est. 1880

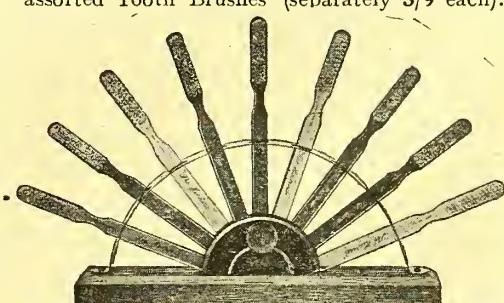
47 FRAMPTON PARK ROAD,
HACKNEY, LONDON, ENGLAND

Phone - - 1794 Dalston

STIMULATE SALES

of Tooth Brushes by displaying them prominently.

To assist your sales we offer the oak display stand illustrated below, free with 1 gross of assorted Tooth Brushes (separately 3/9 each).

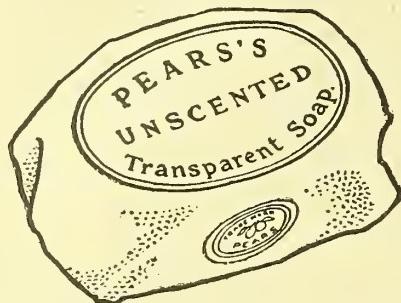


BRUSHES THAT REPAY DISPLAY

Ask our traveller to show them to you, or send for sample.

		Doz.	Gross
No. 784	Celluloid handle	12/6	144/-
No. 1089	"	6/6	72/-
No. K90	Bone handle, four row, waxed	4/9	54/-
No. E97	Bone handle, four row, waxed, wire-drawn (a wonderful 6d. line)	4/3	48/-

THOS. SWALES 20/24 BUTTS COURT, LEEDS



Modern Manufacturing is on so large a scale that it is impossible to stock everything and difficult to know what to accept and what to refuse.

Plenty of Manufacturers do little or nothing to help the Pharmacist after he has given his order. This is bad policy.

Select your stock from among those manufacturers who, like the makers of Pears' Unscented Transparent Soap, study your interest, and do all in their power to help you clear the goods they sell you.

PEARS

A. & F. PEARS, Ltd., 71-75, New Oxford Street, London, W. C. 1.



In Green Bottles, Registered.

Frozocclone

REGD.

The Original and Best
SOLID EAU DE COLOGNE

has many imitators but no equal.

Its elegance and utility appeal to all.

Made from the finest Eau de Cologne. Refreshing when rubbed on the forehead, pleasant as a smelling bottle, invaluable in a heated atmosphere and when travelling. A real acquisition to every household. Excellent after shaving. A boon to those in hospital.

Retails at 3s. 6d. Minimum (P.A.T.A.) Per doz. **32/-**

SPECIAL TERMS FOR BONDED SHIPMENT OF 4 gross minimum.

SOLID ENGLISH LAVENDER

TERMS AS FOR FROZOCCLONE.

Similar size and packing
as "FROZOCCLONE"
but in BLUE glass.

A DELICIOUS FRUIT LAXATIVE PASTILLE

ANALAX

REFRESHING & MILD APERIENT

CONTENTS—THIRTY PASTILLES

THE IDEAL FRUITY LAXATIVE

In Pastille form. Delicious, Reliable, Effective.

Retails at **2s. 3d.** minimum. Per dozen **21s.**

REDUCED PRICES FOR EXPORT.



THE NAIL POLISH

with new and distinctive features.
Softens the cuticle, Brilliant polish;

Retails 1s. 9d. Per dozen 15s.

R. DEMUTH'S LABORATORIES
68 Salusbury Road, and Montrose Avenue, London, N.W.6



TRADE MARK

Millions of People

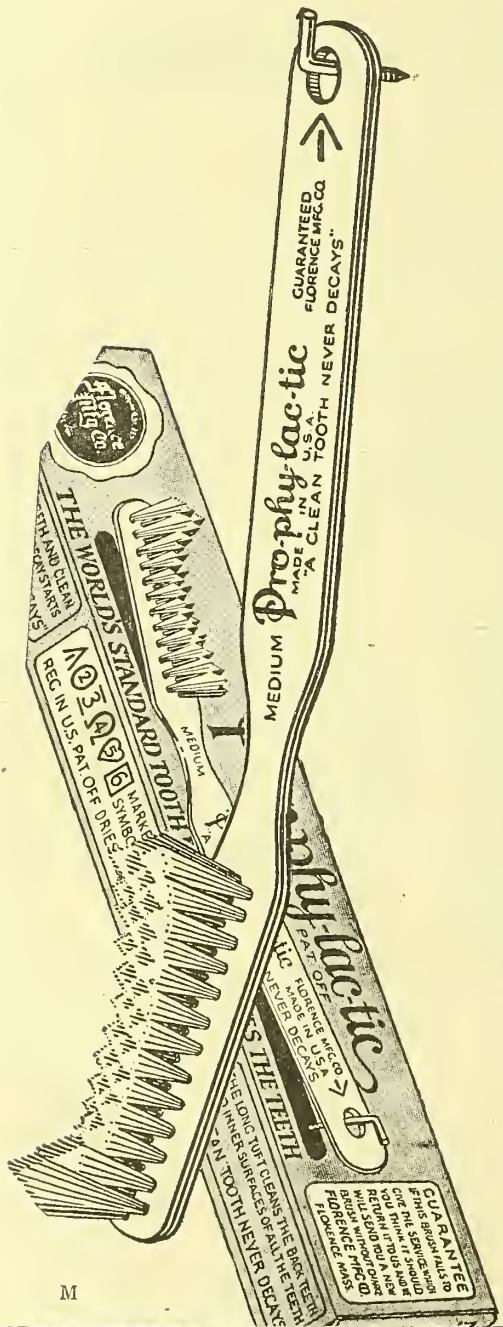
**are being told in our
Press Advertising that**

"To get the Pro-phy-lac-tic Tooth Brush, originated and made by the Florence Mfg. Co., of Florence, Mass., U.S.A., since 1880, look for the hyphenated word Pro-phy-lac-tic stamped on the

YELLOW BOX."

To an ever-increasing public our convincing advertising is driving home in the monthly, weekly, and daily Press the merits of the Pro-phy-lac-tic Tooth Brush in the sanitary YELLOW Box.

Let the public see the Pro-phy-lac-tic in your windows—and thus profit by this advertising.



Pro-phy-lac-tic Tooth Brush

Only in YELLOW BOX

*Manufactured by the Florence Manufacturing Co.,
Florence, U.S.A.*

In 3 sizes—adult's, youth's, and child's; in 3 textures of bristles—hard, medium, or soft; one quality only—each in its individual YELLOW Box with hook for hanging.

Price to the Public 2/6

To the Retailer, a Full Trade Profit

Sold through the Wholesale Houses only

WM. E. PECK & CO., Inc.

31 Bartholomew Close - - LONDON, E.C.1

WILSON'S CO-RE-GA[®] (POWDERED)

**Comfort Powder
Holds False Teeth
Firmly in the Mouth**

PREVENTS SORE GUMS.

Dentists everywhere are now prescribing and sending patients to Chemists for CO-RE-GA. Sales are increasing tremendously on account of this extensive and intensive dental propaganda work. As a Dental Plate Fixative CO-RE-GA stands alone for dependability and long-lasting adhesive properties.

CO-RE-GA is a ready repeater and sells anywhere, whilst profits are not only good, but amply protected. Add to your personal prestige by handling CO-RE-GA.

LIKE THE DENTIST—RECOMMEND IT WITH CONFIDENCE.

IN METAL CANISTERS:

(Small)	1/6 P.A.T.A.	- - - - -	Doz. 12/-
(Medium)	2/6	"	" 20/-
(Large)	4/3	"	" 34/-

ORDER FROM YOUR WHOLESALER—or direct from

Thos. Christy & Co. (DISTRIBUTORS),
4/12 Old Swan Lane - - - **London, E.C.4.**
SAMPLES MAILED FREE ON REQUEST.



**GIVES
A GOOD
PROFIT**

**ENSURES
LASTING
BUSINESS**

LARGEST Gillette SUPPLIERS

IN GREAT BRITAIN.

"Gillette" Brownie Set

with one blade

3 DOZ. LOTS 17/- per doz.

1 DOZ. 18/6

Immediate delivery of GENUINE U.S.A. "GILLETTE" BLADES

Price List on application.



WARD'S OF WARRINGTON.

Glass Bottles

Speciality :

MEDICAL DISPENSING BOTTLES OF ALL KINDS

Wholesale & Export

W. SMITH, Senior

169-170 Railway Arches, Braintree St.
Cambridge Road, Mile End, E.2.
Telephone No. East 5578 Estd. 1880



33½ PER CENT.

and the appreciation of your customers.

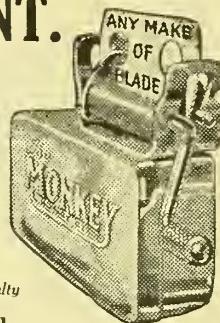
THAT IS WHAT THE MONKEY STROP OFFERS YOU.

Send NOW for sample dozen or half-dozen, complete with show stand.

Well Advertised—Fixed Price—Improved Model—Sells at 5.6.
Trade 45/- dozen.

Order through Wholesaler, or if any difficulty from Manufacturers :

C. DOUGLAS KIRBY & Co., Ltd.,
St. John's Lane, Gloucester.



SPECIAL OFFER - 1,000 gross. **TOOTH BRUSHES.**
BONE and CELLULOID, 4-Rows Bristle. ADULTS' SIZE,
ASSORTED PATTERNS, at 48/- PER GROSS.

CASH WITH ORDER, CARRIAGE PAID. PAYMENT REFUNDED IF NOT APPROVED.

THE STANDARD BRUSH CO., 121a, BUNHILL ROW, LONDON, E.C.1.

GILLETTE BLADES AND RAZORS. U.S.A. (12s) 33½ per box; no reduction for quantities. U.S.A. (6s and 10s) 30/- per box; 3 boxes, 29/- per box. Canadian (6s and 12s) 27/8 per box; 3 boxes, 26/10 per box. Brownies (with 1 blade) 16/6 per doz.; "460" Old type 21/- (black case) 3/- each, 32/6 doz. New improved razors—all types in stock at keenest prices.

EVER READY BLADES AND RAZORS. 31/- gross with 24 free razors; ½ gross with 12 free razors 18/-.

THE NEW "99" VALET RAZOR TO RETAIL AT 26. 3 doz. for 63/3/-, 1 doz. for 41/2/6, subject to 21½%. Valet blades 38/- box net. Valet (6/- model) razors, gold plated in metal case, 48/- doz. Clemak, Durham Duplex, 7 O'clock blades, 1/8 package.

Send for list. Cash with orders. No connection with any other firm.
ALFRED FRANKS, 23 Bartlett's Buildings, London, E.C. Tel.: Holborn 4760.

EVAN WILLIAMS

ALWAYS IN GREAT DEMAND,
PRICE LIST ON APPLICATION.

The EVAN-WILLIAMS Co., Ltd., 14/15 Union St., W.1.

SHAMPOO

Telephone : Axminster 5.

Telegrams : "Coate, Axminster."

COATE & CO. (Axminster) Ltd.

The London Brush Works, Axminster, Devon.

Estab. 1847.

Manufacturers of Super British Brushes

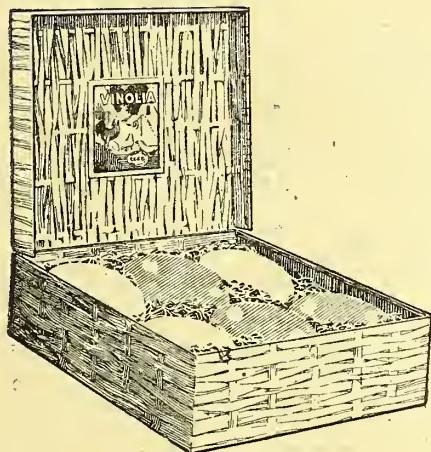
Our Special "PROPHYLACTIC" Tooth Brushes, in Hard, Medium, Soft, and Yellow Hair, also Ex.H., in 3 row or 4 row, in Cartons, with customer's name and address, free for orders of 1 gross. Every Brush Guaranteed. British made throughout by British Labour.

SEND FOR OUR PRESENT LIST OF PRICES.



Seasonable Lines

For Easter



For cleaning hands

Sprinko is a perfumed powdered toilet soap which, like "13 soap" in "It Pays to Advertise," is "unlucky for dirt." Introduce it to customers who assist in their own spring-cleaning and to amateur gardeners, mechanics and motorists. Although very effective, it is quite harmless to the most tender skin. Many use it for artificial dentures. In sprinkler containers retailing at 6d. and 10½d. Best profit on outlay, 52%.

SPRINKO
POWDERED TOILET SOAP
Rough on Dirt — Smooth on Hands

Displays of novelties always attract custom, and no more elegant and useful novelty for Easter could be found than Vinolia Soap Eggs, issued in pleasing presentation boxes of 6, retailing at 2/- Bantam size, 2/3 Duck Eggs and 2/6 Toilet size. When bought on best terms the profit on outlay amounts to over 64%.

Vinolia
Soap Eggs
cannot be beaten



Vinolia

Lever House, Blackfriars, London

Works: Bebington, Cheshire

Telephone: City 5740.

Telegrams: Vinolia, Lud. London.

SIMPLIC SOOTHERS



Reduced Prices—Better Values

SIMPLIC PATENT ALL-RUBBER SOOTHERS have now been reduced to retail at

LARGE - - 6d. each

SMALL - - 4½d. ,,

Ask your supply house for 1924 prices.

SIMPLIC SOOTHERS have also been increased in weight and they now represent the best value in soothers on the market.

Packed in Dustproof Cartons.

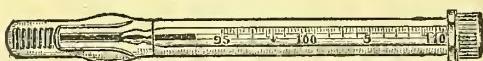
ASK FOR DISPLAY CONTAINER of TWO DOZEN

Ask also for SIMPLIC TEATS in cartons. This companion line is put up in boxes of 3 dozen Teats in 8 different patterns.

A. C. COSSOR & SON

Established 1859.

High Class Clinical Thermometers



PATENT



THE ACCOSON ASEPTIC CLINICAL.

The Thermometer is sterilised each time it is placed in the case, and the markings on the tube are not defaced. Any 4" clinical will fit the case.

Prices on application or can be obtained from all Wholesale Houses. ORIGINAL PATENTEES OF EASY SET CLINICAL THERMOMETERS. Contractors to all Government Departments.

Accoson Works, Vale Road, London, N.4.

Telephone : Tottenham 1880.

"EUREKA" CREPE VINWOOD BANDAGES

Fast Edge, Washable, Rubberless & Porous.
First Introduced by ME in 1892.

PROCURABLE FROM ALL WHOLESALE HOUSES.
Sizes 2 to 4 inches in 3 qualities. Binders
8 and 11 inches in one line.

Stock, sell and recommend the best Crepe Bandage on the Market.

Special Prices for Quantities.
Wrappers Printed with Customers' name on.
BEWARE OF IMITATIONS.

Genuine Bandages marked "Eureka"

VINCENT WOOD

Makers on the premises of
Elastic Hosiery, Trusses, Belts, etc.
91 & 93 Newington Causeway, London, S.E.1



"SURCO" SEAMLESS HOSIERY

Always
Reliable.

For Catalogues, Measurement Forms
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Patentees & Manufacturers

The Surgical Hosiery Co., Ltd.
Dept. B, Russell St., NOTTINGHAM



W. H. HORN & BRO.
PHILADELPHIA.

TRUSSES AND TRUFIT ARCH LIFTS

SUPPLIED FROM STOCK.

*Send for Catalogue and
Particulars to the AGENTS
FOR GREAT BRITAIN*

H. E. CURTIS & SON, LTD.

7 MANDEVILLE PLACE
(off WIGMORE STREET),
LONDON, W.I.

Telephone:
Mayfair 1608 (2 lines).

Telegrams:
Curtis, Mayfair 1608.

A SATISFIED CUSTOMER IS THE CHEMIST'S BEST ADVERTISEMENT The Marvel Whirling Spray Syringe



Gold Medal Awarded, Paris, 1902,
by the Société d'Hygiène of France

as the latest and best improvement in Vaginal Syringes. Particular attention is called to the fact that by reason of its peculiar construction the Marvel Syringe dilates and flushes the vagina with a volume of whirling spray, which smooths out the folds and permits the injection to come into contact with and cleansing the entire surface.

Fully Protected by Patents.



IT IS A MARVEL



You can safely recommend it.

Has no rival on the market, is well advertised, pays a good profit, quality guaranteed. The MARVEL is returnable for exchange if found defective and reported promptly.

Trade price, 125/- per doz.

Retail price, 15/- each.

FASSETT & JOHNSON, Ltd.
86 Clerkenwell Road, London, E.C.1.

The *Lullaby* REGD. Patent applied for. SEAMLESS-MOULDED NEW PROCESS FEEDING BOTTLE TEAT



Pure, Transparent,
Heat-cured Rubber.

Improved design, anti - choke thickened ball top. No ribs. Perfectly hygienic, and easily boiled for sterilization without injury.

Absolutely non-poisonous and practically anti-hygrosopic. Most durable of all teats. Packed each in carton in counter display boxes of three dozen.

From all Wholesale Druggists
Sundriesmen, or direct from

RELIANCE RUBBER COMPANY

212-213 Upper Thames Street London, E.C. 4.
Telephone: City 2396 Telegrams: Doontop East, London

DEFY
COMPETITION
BY SELLING
THE BEST
QUALITY

VACUUM



F
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GUARANTEED DOUBLE TESTED
THEREFORE BEST.

TEN PATTERNS IN STOCK.

SAMPLES, IF REQUIRED, AND
PRICES PER RETURN FROM

OWTAZIN CO. Phone:
London Wall 5482.

(John Tolmie, M.P.S., Proprietor),
IMPORT AND EXPORT MERCHANTS,
50-51 FORE STREET, LONDON, E.C.2.
VERB. SAP. BUY NOW!!

I.H.FORD LIMITED REGISTERED TRADE MARK
DROCO DROCO DROCO
6. WELL ST. LONDON, E.C.1.
Telegrams: Drocotym, Cent., London. Telephone: City 2522
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FIRST AID CABINETS

Delivery from Stock.
"INGOT" quality throughout.

	0	Cloth covered (50)	10	8
1	Wooden box	"	..	..	16	0
A	Superior do., drop front		..	..	22	0
B	Cabinet de Luxe (51-150)		..	..	63	0

Subject 25% Trade Discount.

Buy British Goods from the Actual Manufacturers.
ENEMAS, WHIRLING SPRAYS, URINALS,
And every description of Surgical Appliance
in Cut-sheet and Seamless Rubber:-

Winchester Manufacturing Co., Ltd.
Members of the "National Union of Manufacturers,"
Regd. Offices - - - 21 THE SQUARE, ISLEWORTH.

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an illustrated monthly magazine for druggists, full of American snap and enterprise.

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WHAT EVERY MOTHER KNOWS!

The "**EVERSAFE**"
BABY
PACIFIER

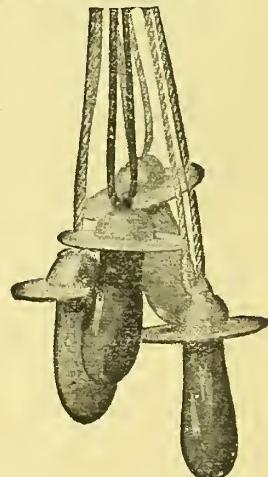
is her favourite
because it is safe,
baby cannot pull it
apart. Baby's
delight, because of
its natural resilient
nipple.

Patented Everywhere

REDUCED RATES—

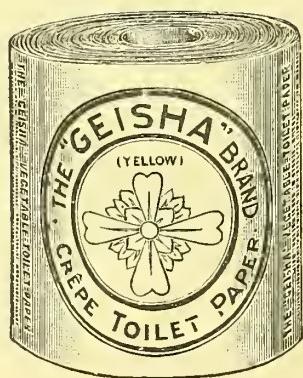
No. 2. 4d. Line. 2 6 doz.
No. 2c. 6d. Line. 3 1/2 doz.
No. 2e. 6d. Line. 3 1/2 doz.
No. 3. 7 1/2 d. Line. 4/- doz.

Sample Order, 3 dozen
assorted, send 9/6 Post free



Obtainable from all Wholesalers
or direct from Patentees.

F. SCHUTZE & CO., Ltd.
BLACK BULL WORKS, LONDON, N.7



H. C. STERN

Lovell's Ct., Paternoster Row, London, E.C.4

Telephone: Central 6859.

Telegrams: Glastos, Cent., London.

THE "MATER" CLINICAL

MAGNIFYING FRONT. NATIONAL PHYSICAL LABORATORY GUARANTEE.
EASY TO READ. EASY TO SHAKE DOWN.

This series of **Clinical** Thermometer is on the

P. A. T. A. LIST

AN ADEQUATE MARGIN OF PROFIT BEING GUARANTEED

REGISTERED No. 553038



PRICES OF THE "MATER" CLINICAL IN METAL CASES:—

Retail ... 2 min., 4/6; 1 min., 5/6; $\frac{1}{2}$ min., 7/- each.
Wholesale „ 27/-; „ 33/-; „ 42/- per doz.

**PERKEN, SON & CO., Ltd., 94 HATTON GARDEN,
LONDON, E.C. 1.**

Established 1852.

Telephone: 724 Holborn.

Write for Prices of every description of **CLINICAL and OTHER THERMOMETERS**

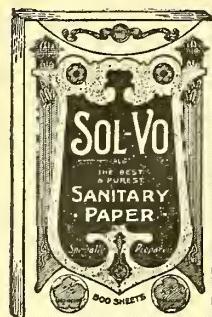
Contractors to H.M. Government.

Telegrams: "Optimus, Smith, London."

SOL-VO SANITARY ROLLS & PACKETS.



SOL-VO
REGD
THE BEST & PUREST
SANITARY PAPER



	per doz.		per doz.
Three dozen Rolls	... 7/- net.	Three dozen Packets	... 10/- net.
Half gross	„ 6/6 „	Half gross	„ 9/6 „
One gross	„ 6/- „	One gross	„ 9/- „
Five gross	„ 5/3 „	Five gross	„ 8/3 „

CARRIAGE PAID.

CASES FREE.

FORD, SHAPLAND & CO. Ltd.

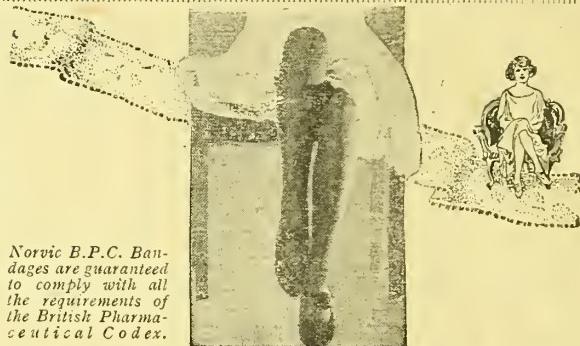
LABELS & SHOWCARDS — PRINTERS — CARTONS & ENVELOPES,
GT. TURNSTILE, HIGH HOLBORN, LONDON, W.C.1.

TELEGRAMS: FORSHAPCO. WESTCENT, LONDON.

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IS THE TIME TO PLACE YOUR
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FOR
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SPONGE BAGS
HOLDALLS
OUR LATEST PATTERNS AND
PRICES SENT ON APPLICATION

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MANCHESTER and GLASGOW
36 Chapel St., Victoria Bridge. 84 Miller Street.
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Phones Clerkenwell 1347, 1348, 1349 (Pte. Exchange).



Norvic B.P.C. Bandages are guaranteed to comply with all the requirements of the British Pharmaceutical Codex.

NORVIC **CRÊPE BANDAGE**

Practically invisible under Silk Stockings

Washable, Rubberless, Hygienic, Soft, Cheap.
Recommended by doctors and nurses everywhere for
Varicose Veins

They Prevent as Well as Cure. Ask for "Flesh Colour."
Sole Manufacturers:
GROUT & CO., Ltd., GREAT YARMOUTH
Stocked by all the leading wholesalers.

For **GLASS BOTTLES**

Write to

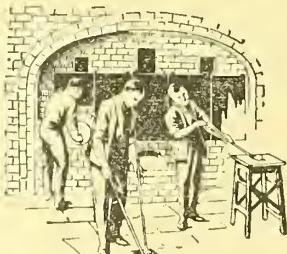
Fred^k Youldon

Phone: London Wall 3529.

Formerly proprietor of E. YOULDON. Established 1840.

PORTLAND HOUSE,
73 Basinghall Street, LONDON, E.C.2.

Wires: "Youldon, Stock, London."



GLASS BOTTLES

FULL RANGE OF

Medicals (plain and graduated),
Flat Dispensing, Panel Flats,
Poisons, Limes, Kalis, Emulsions,
Tobins, Vials, Tablets, &c. &c.

MANUFACTURED BY—

MONEY'S PATENTS, LTD.

111 Dalston Lane, LONDON, E. 8.

Phone: Dalston 1456.

ALWAYS at the TOP
OF THE POLL.

M.P.'S

**BRITISH
BLOWN
BOTTLES**

White, Blue, Green,
and Amber.

THE "SCHOLL" FIRE

Ample Stocks for Dealers

The news of the big fire on Friday last that gutted out Dr. Scholl's Foot Appliance Factory was quickly broadcasted throughout the country from the London Wireless Station, and made a special item of news in the National Papers. The result of this wide publicity has been to cause considerable, though unnecessary, concern to the Trade.

DR. SCHOLL'S FOOT COMFORT SERVICE UNIMPAIRED.

The full power of Dr. Scholl's world-wide organisation has already been called in to play its part to ensure that no inconvenience shall be caused "Scholl" dealers and the public.

The large Warehouse at Giltspur Street, always kept fully stocked, is well filled to supply all the present demands of the Trade. This stock will be quickly supplemented by large shipments from the "Scholl" Factories at New York, Chicago and Toronto, which were immediately apprised of the fire by Cable, and are already hurrying forward stocks of Dr. Scholl's Foot Comfort Appliances and Specialities that will meet every demand.

To prevent congestion in the Warehouse, and thereby ensure a steady flow of deliveries, "Scholl" dealers are invited to co-operate with us in the work of reconstruction by ordering their supplies weekly instead of in big quantities each month as is usual. Orders will be dealt with in strict rotation.

Dr. Scholl's National Summer Advertising Campaign, plans for which have already been drawn up, will not be curtailed in any way.

THE SCHOLL MFG. CO., LTD., 1-4 GILTSPUR STREET LONDON, E.C.1.

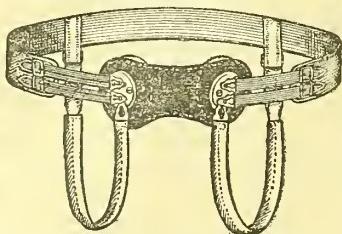
Telegraphic Address—BELTRUSS,
TWICKENHAM.

Fig. 60r. Inguinal Elastic Truss.

Telephone—RICHMOND 1557.

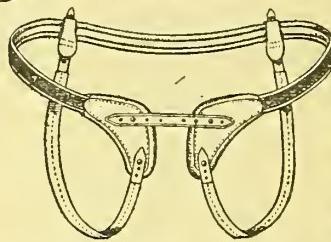
Fig. 64r. Peaked Head Scrotal.

ABDOMINAL BELTS



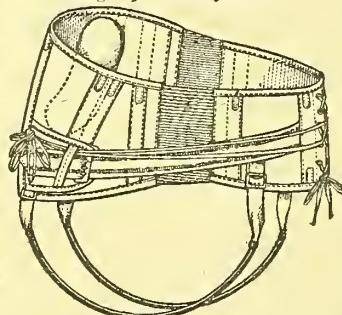
TRUSSES

SURGICAL SPRING AND
ELASTIC TRUSSES.
SEAMED AND SEAMLESS
ELASTIC HOSIERY.
ABDOMINAL SUPPORTING and
POST OPERATION BELTS.
SURGICAL CORSETS.
SUSPENSORY BANDAGES.



Makers to the Trade of every description of English, French and American Truss Springs.
Sole Agents for the United Kingdom of Great Britain, Ireland and The British Dominions
of the Celebrated

Fig. 19. Kidney Belt.



Crêpe Velpeau Bandages.

THE
R. H. HEWARD Co.,

Crown Road Works,
TWICKENHAM.

Contractors to H.M. Government.

Fig. 583.



Richmond
Shoulder
Brace.

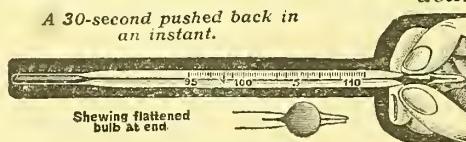
ELASTIC HOSIERY

CREPE VELPEAU BANDAGES

ZEAL'S REGISTERED

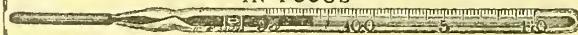
Clinical Thermometer *The REPELLO* requires no shaking down

A 30-second pushed back in an instant.



NEW IMPROVED LENS FINDER

The only Easy Reading Magnifying Clinical on the Market.
IN FOCUS



The square mark engraved on lens front locates the Mercury column immediately.

SPECIAL AWARD AND GOLD MEDAL, NEW ZEALAND, 1907
SILVER MEDAL, INIOIA, 1909. SILVER MEDAL, LONDON, 1913

All Clinical Thermometers are supplied
N.P.L. Tested unless otherwise ordered.

G. H. Zeal, Ltd., 77, St. John Street,
Clerkenwell, London, E.C.I.
Established 1888.

Wholesale Manufacturers of Clinical Thermometers.
Contractors to H.M. Government.

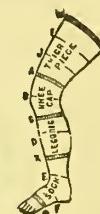
Telegrams: "Zealdom, Smith, London." Tel. No.: Clerkenwell 5202.

J. H. HAYWOOD, LTD.

Castle Gate, NOTTINGHAM.

ESTABLISHED 1833.

Surgical Appliance Manufacturers



Inventors of Seamless Elastic Hosiery

Specialities :

BELTS, TRUSSES, SUSPENDERS,
BRACES, DRUGGISTS' SUNDRIES.

Write for Price List.

ABSORBENT
GAUZES.ABSORBENT
WOOLS.ABSORBENT
LINTS.ABSORBENT
TISSUES.

WOOD WOOL.

CARDED
WOOL.

PEAT MOSS.

Surgical Dressings

BANDAGES
OF EVERY
KIND AND
PATTERN.

JACONETS.

SHEETINGS.

BATISTES.

OILED SILKS
& COTTONS.

G.P. TISSUE.

*: Packed to suit your requirements. :
Special Quotations for Large Quantities.*

Carnegie Bros. 227/229 ESSEX RD.,
LONDON, N.1.

Telegrams: "Carnebros, Phone, London."

CORRESPONDENCE INVITED.
WHOLESALE AND EXPORT ONLY.

Telephones: Dalston 3560 & 2318.

Manufacturers of
STRYCHNINE
& SALTS
and other Fine Chemicals.

WHOLESALE & EXPORT ONLY

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Telegrams: "Carnebros, Phone, London." Codes: A.B.C. 5th and 6th Editions Bentley & Marconi.
Telephones: Dalston 3560 & 2318

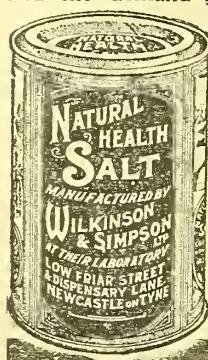
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Make this a "Natural" year
and place your Season's order now for

"NATURAL" HEALTH SALT.

The Original Health Salt of the World

You can make it a leading line—it is a ready seller, and the demand grows day by day. The price is popular with the public—the quality is right—and the profit is good.



"Natural" Health Salt was the first in the market, and is still first favourite in thousands of homes throughout the country.
It is the Natural Way to Health.

Wilkinson & Simpson Ltd.
NEWCASTLE-UPON-TYNE

40 Years' Highest Reputation

Sensons

NORWEGIAN
COD LIVER OIL

From fishing station at Bretosness. In original barrels, Winchesters and bottles with chemist's own name & labels.

Prices and Samples from the Sole Importers—
HERTZ & CO., 9 Mincing Lane, London, E.C.3.

IF YOU WANT GOOD VALUE IN FOREIGN AND BRITISH WINES

"Crown" Brand

Liebig's Meat and Malt Wine, "Win-Ferro"—Tonic Blood Wine, Lime Juice Cordial and Lemon Squash

Write to:—

LAMB & WATT, Ltd.
48 ST. ANNE STREET, LIVERPOOL

for Price List.

ESTABLISHED 1847.

Highest Awards at all International Exhibitions where shown.

NURSE HARVEY'S MIXTURE

A safe, simple, and reliable remedy for Children's Ailments is advertised so extensively in the daily and weekly Press as to bring mothers to the retailer without effort on his part.

The selling has been done before the mother reaches the chemist, and, having supplied her, it is only common sense to claim she will buy other family necessaries from him. Moreover, the retailer has a profitable return on a quick turnover.

For Direct Terms apply to—
OSCAR SCRUTON & CO., YORK

MIRA WATERS

TO UP-TO-DATE, ENERGETIC CHEMISTS—

If you are willing to take up Agency for your district—you can have unusual terms. . . .

CONSIDER—DECIDE—and ACT.

Full particulars from EVERETT & CO., 5 Lloyd's Avenue, LONDON, E.C.3

THE FAMOUS SWISS NATURAL BITTER WATER

Referring to the analysis of BIRMO, Dr. Constantin James, of the Academy of Medicine and several scientific societies in Paris, writes : "This is one of the most remarkable chemical compounds which is consonant with the curative powers of this mineral water."

BIRMO is particularly important for the concentration of its salts. Its purgative action is mild, owing to the presence of calcium carbonate. It is absolutely reliable, and as fresh to the taste as if drunk from the spring itself.

Price - **12/- dozen.** Retail - **1/6 bottle.**

WRAPPING PAPER & SAMPLE BOTTLE FREE FOR DISPLAY.

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Sole Agents for U.K. and Colonies :

JOHN W. ROYLE, Ltd., 67 Charlotte St., W.1



Saint-Raphael

Tonic, Restorative,
Digestive Wine.

Known throughout the World,
and prescribed in all cases of
ANÆMIA, DEBILITY, and CON-
VALESCENCE, to Young Women,
Children and the Aged.

DOSE : One wine-glass after the
two principal meals.

Recommended by—
PROF. BOUCHARDET, Professor of
Hygiene, Paris Faculty of Medicine.
DR. MACNAUGHTON JONES, London,
England.

"For more than thirty years St. Raphaël Wine has been exclusively prescribed, with success, in the Paris hospitals as a pure tonic, by eminent physicians, such as Magendie, Ros on Chomel, Velpeau, Requin, Monneret, Trouseau, Grisolle, Laënnec, &c."—*Union Médicale*, May 8 and June 12, 1873.

"The 'Vin de St. Raphaël' is often used for ladies nursing their own children; it is preferable to stout, which creates an unhealthy fat."—*The Lancet*, London, England.

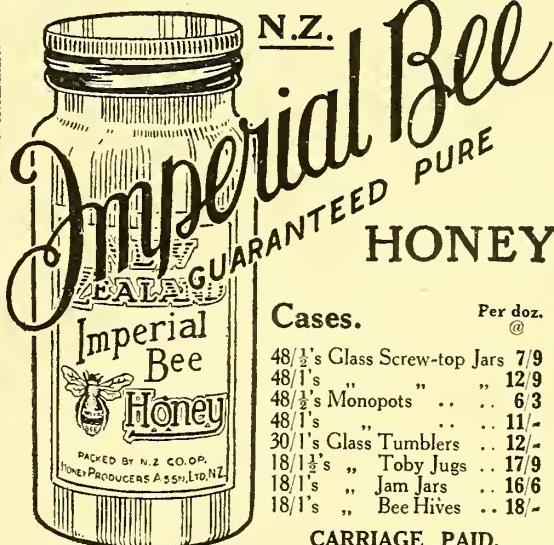
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*To be obtained from all
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THE WORLD'S BEST

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Cases.

Per doz. @

48/½'s Glass Screw-top Jars	7/9
48/1's " "	12/9
48/½'s Monopots	6/3
48/1's	11/-
30/1's Glass" Tumblers ..	12/-
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18/1's " Jam Jars ..	16/6
18/1's " Bee Hives ..	18/-

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Doctors are prescribing Trufood

Humanised Trufood is the closest approximation to breast milk hitherto put forward, as the following analyses clearly show:—

	Breast Milk	Cow's Milk	Humanised Trufood
	%	%	%
Lactose	6·5	4·7	6·3
Fat	3·3	3·5	3·3
Casein	0·9	3·0	0·8
Lactalbumen	0·4	0·3	0·6
Salts	0·2	0·8	0·6
Water	88·7	87·7	88·4

Close as is the resemblance revealed by the above figures, the analogy to breast milk is even closer, since Humanised Trufood contains active enzymes and vitamins. The presence of the ferments, amylase, lipase, peroxydase, etc., can be readily demonstrated.

Exclusively a Chemist's Line

The keynote of the Trufood trading policy is to direct every sale through the chemist.

No other channel of supply is open to the public. A trained staff of qualified pharmaceutical chemists are constantly calling upon the Medical and Nursing Professions and their calls are followed by exhaustive circularisation, sampling, etc.

We count upon you to support our efforts to create goodwill between yourselves and the buying public.

You are certain to be asked for Trufood, and should keep at least a minimum supply to meet inquiries. If you are not stocking, write to-day for samples and special trade offer.

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FOR BREAST FEEDING



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THE GREAT NERVE FOOD AND FLESH BUILDER

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CALVES FEET JELLY

The Most
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Made from genuine feet

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of Beef, Mutton or Chicken
consists solely of the juice of
the finest meats, prepared
with the greatest care under
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Essential in the Sick Room.

Sold by all Chemists and Stores.

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(VITAMINES)

INVALUABLE FOR
SLEEPLESSNESS
NERVOUS DISORDERS
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Great Remedies for the Horse

*Protected Prices
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Parasiticide.
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FOR DESTROYING RATS AND MICE

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Virus for Rats and Mice, single tube, 2/-	15/-	per doz.
3 tubes, 5/-			
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3 tubes, 3/-			
Date-expired tubes returned to us postage paid will be exchanged free of charge.			

Danysz Virus in Liquid Form

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Quart Bottles 6/- each	4/6	cach
Pint " 4/6 "	3/9	" "

**HALLER'S EXTRACT OF SQUILL
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Discount off Retail Prices 25% Monthly Account, or 33½% cash with order.

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1 gall. tins	10/-	7/6	6/8
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For destroying Blackbeetles, Cockroaches, Crickets, &c.
Retail Prices (protected).

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In tins 3d.	In boxes of 2 doz. 2/1
" 6d.	1 " 3/8
" 1/-	1 " 7/5
" 2/6	1 " 18/-

Danzo Beetle Powder will not deteriorate by keeping.

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The Cauld is Tellin' on the Rats

They're comin' in by scores,
Ye needna try to keep them oot
By merely steekin' doors.

There's lots o' fancy dopes for Rats,
But "Rodine" croons them a';
Jist try a sneechin' spread on bread,
It maks maist Rats feel Sma'.

A Chemist o' Fife.

This is How "Rodine" appeals to a prominent Chemist in Fife.

"Rodine" is not only good for the Rats, but it is The Poison with the Preference—most Chemists prefer to push "Rodine"—it pays nearly 100% profit on every sale. This is the best time to push the "Rat Crusade." Do it now.



*Sole Maker and
Proprietor :—*
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DOG MEDICINES
INSECT POWDER
SHAMPOO, and
LACTOL**
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Tel. No.: Hop 1897. Telegrams: "Sherleydom, London."

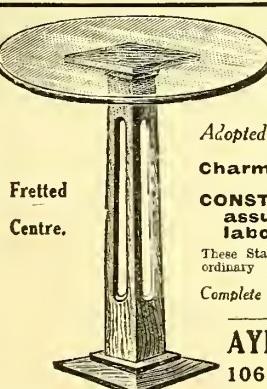
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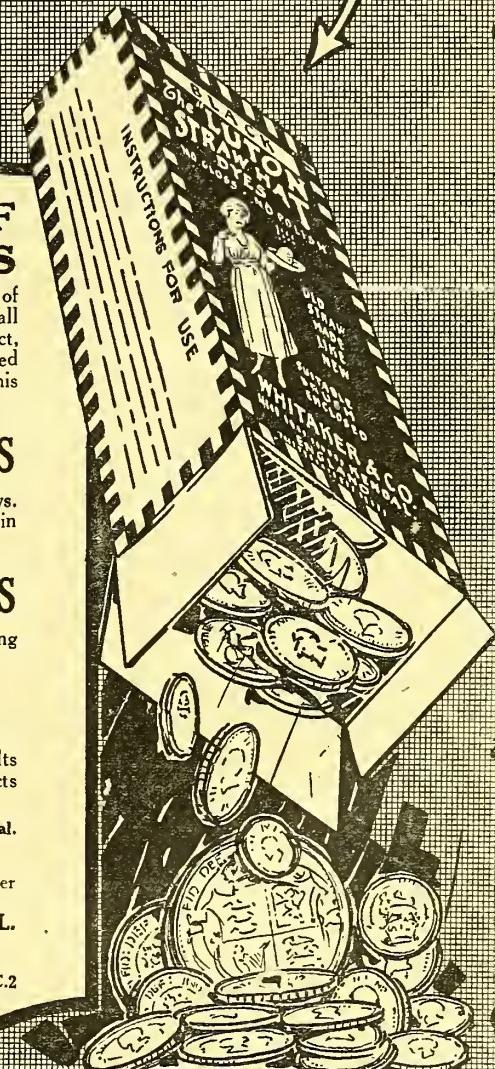
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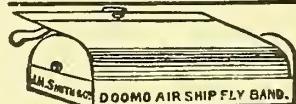
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A wide, long band,
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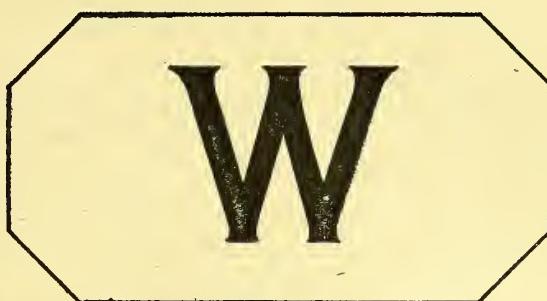
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It is no use buying the best drugs if they are to be contaminated by the bottles in which they are dispensed. The risk of this contamination has been demonstrated in the Law Courts.

The fine shop front attracts the customer, but its appeal must be supported by handsome bottles.

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Accurate in Capacity. Free from
Arsenic and Lead. Without equal in
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There is no better help than a smoothly finished, bright, attractive bottle.

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For —

Accurate
Capacity
Medical
Bottles

and with
CORRECT GRADUATIONS,
in
WHITE FLINT GLASS,

Be Sure and Write

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**RYLANDS GLASS and
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Warning to the Trade

DIGITALINE NATIVELLE

etc.

LABORATORY NATIVELLE, LIMITED, Registered Offices, 15 Great St. Andrew Street, London, W.C.2, have been appointed the **SOLE REPRESENTATIVES** for **GREAT BRITAIN** and **FREE STATE** of **IRELAND** of **LABORATOIRE NATIVELLE** (49 Boulevard de Port Royal, Paris) for the importation and sale of **DIGITALINE NATIVELLE** and other preparations and chemical products of **LABORATOIRE NATIVELLE** for **GREAT BRITAIN** and **FREE STATE** of **IRELAND**.

Repeated complaints have been made recently regarding the supply and sale of **DIGITALINE NATIVELLE**, etc., imported into **GREAT BRITAIN** by unauthorized persons.

NO TICE IS HEREBY GIVEN TO THE TRADE that legal proceedings will be taken against all Firms importing or dealing in **DIGITALINE NATIVELLE** and other preparations and chemical products of **LABORATOIRE NATIVELLE** other than that obtained through the authorized source.

LABORATORY NATIVELLE, LIMITED, further give notice that Messrs. **WILCOX, JOZEAU & CO.**, of 15 Great St. Andrew Street, W.C.2, are their Sole Distributors of **DIGITALINE NATIVELLE**, etc., for **GREAT BRITAIN** and **FREE STATE OF IRELAND**, and the only authorized source through which **DIGITALINE NATIVELLE**, etc., may be obtained by the Wholesale and Retail Trade.

Firms holding any stocks of **DIGITALINE NATIVELLE**, etc., obtained otherwise than through the foregoing source are hereby notified that upon applying to Messrs. Wilcox, Jozéau & Co., their stock will be exchanged for the legitimate stock—flacon for flacon. This offer will hold good for the period of one month from the date of this advertisement, but cannot apply to any goods imported after the **date of this notice**.

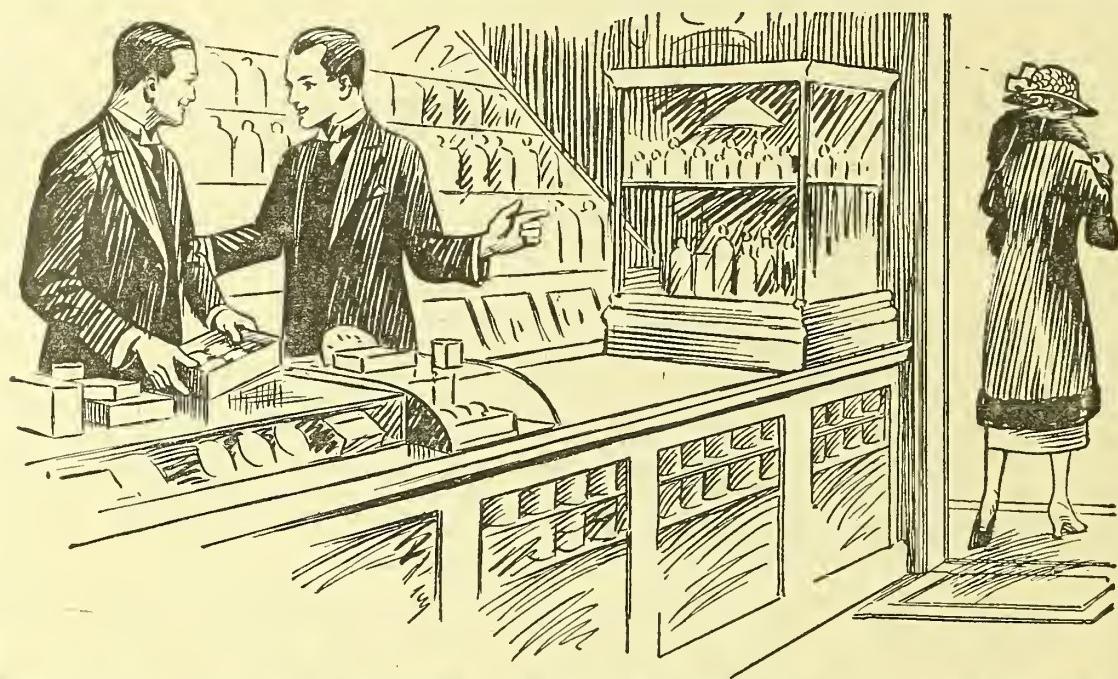
The foregoing offer is made by **LABORATORY NATIVELLE, LIMITED**, in an honest endeavour to allow the TRADE holding illicit stocks of **DIGITALINE NATIVELLE**, etc., to relieve themselves of these, and any Firms, Companies or persons who refuse to avail themselves of this offer will render themselves liable to legal proceedings without further warning.

LABORATORY NATIVELLE, LIMITED, request all Firms holding stocks of **DIGITALINE NATIVELLE**, etc., to communicate immediately with Messrs. Wilcox, Jozéau & Co., stating the amount of the stock they have on hand for exchange in order that they may avail themselves if necessary of this **FINAL OFFER**.

LABORATORY NATIVELLE, LIMITED, Sole Importers and Agents for **GREAT BRITAIN** and **FREE STATE** of **IRELAND** for **LABORATOIRE NATIVELLE** (49 Boulevard de Port Royal, Paris).

15 GREAT ST. ANDREW STREET, LONDON, W.C.2.

March 26th, 1924.



It was the label that sold it

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MEMOS



STATEMENTS



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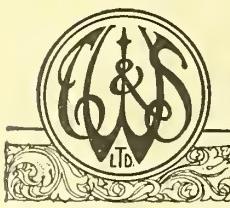
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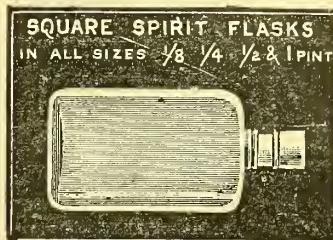
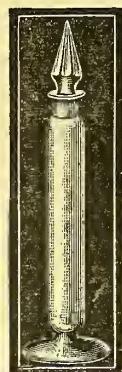
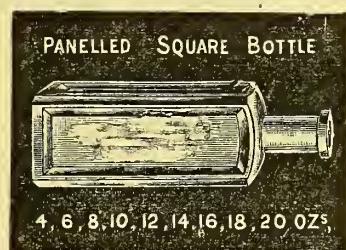
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The Chemists' Printers
LEEDS



ESTABLISHED

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ORDERS EXECUTED
IMMEDIATELY FROM STOCK

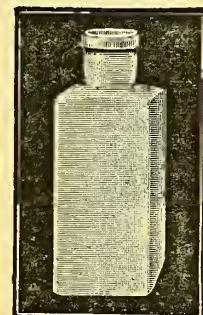
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We have very much pleasure in notifying our customers that we are enabled to extend an invitation to view the race from our new Wharf at Hammersmith, and will be pleased to hear from them at an early date as to their wishing to avail themselves and stating the number of visitors intending to come, so that we may know how many to cater for.



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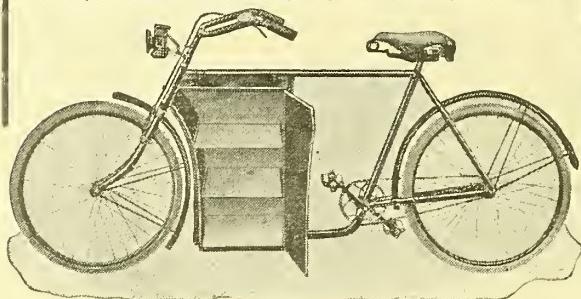
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THE ABBEY BOX CARRIER protects you from such risks as shown above—spoiled goods and possibly lost custom. THE ABBEY BOX CARRIER is cleaner. Merchandise is weather-proof and safe. The cycle cannot skid, tyres cannot puncture. The carrier carries twice as much as a 'basket-in-front' cycle and costs much less than the three wheel type, and deliveries are quicker. The price includes lamp, bell, reflex, tool-kit and painting on the retailer's own sign.

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Designed and Manufactured by ABBEY BOX-CARRIERS LTD.,
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Spring

WINDOW DRESSING PAPERS.

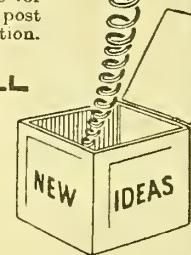
J. C. King's have just completed their new sample set of Spring patterns of "Attracto" Window Dressing Papers. New ideas and fresh designs. Move with the times and send at once for complete sample set No. CH1002, post free and free of charge for inspection. Prices range

FROM 1/3 PER ROLL

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Buy a Business, Sell a Business, Secure an Agency, Engage an Assistant, Procure a Situation, or Sell Odd Lots of Chemists' Requisites

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THE CHEMIST & DRUGGIST SUPPLEMENT

This is the Tariff:

Businesses Wanted and for Disposal, Premises to Let, Goods and Shop-fittings for Sale, and Agencies: 6/- for 50 words; every additional 10 words or less, 6d.

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Legal Notices, Tenders, Auctions, and all specially spaced announcements, 1/3 per nonpareil line (12 lines=1 inch single column).

Miscellaneous (Wholesalers') Section, for odd and second-hand lots; 10/- for 60 words; 1/- for every additional 10 words or less.

EXCHANGE COLUMN (for Retailers, etc.). **Twopence** per word, minimum 2/-.

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In each case replies may be addressed to a registered number or nom-de-plume, c/o this Office, at a charge of 1/- extra for each advertisement.

Address all communications to
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Telephone: Central 3617 (3 lines)



Milton Advertising is Selling More Milton for You

Milton advertising is showing your customers how to use more Milton.

It is bringing you new customers for new uses every day.

Milton would have a big sale for any one of its uses. Think of the sales possibilities with 101!

"Milton for 101 uses in the home." That is our message to the public in the great national advertising campaign which commenced last week. That is what we are going to drive home week after week by prominent publicity. A list of the most important uses will be given in every advertisement where space permits.

And every use is a practical use, to meet a real need in the home.

Milton advertising is going to "put a bottle in every home"—and the bottle isn't going to last very long! Your customers will be using it in so many ways.

They'll soon be back for more... To you?

That's up to you. Make it plain that you sell Milton; display it prominently and consistently, and you'll get the business—and keep it!

MILTON

TRADE MARK



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Telephone: Clerkenwell 3860
Telegrams: "Ocnolim, Barb. London."



To Help You Sell More Musterole

Musterole showcards—one in your window, one on your counter.

These beautiful Musterole salesmen profitably tie-up with Musterole advertising....

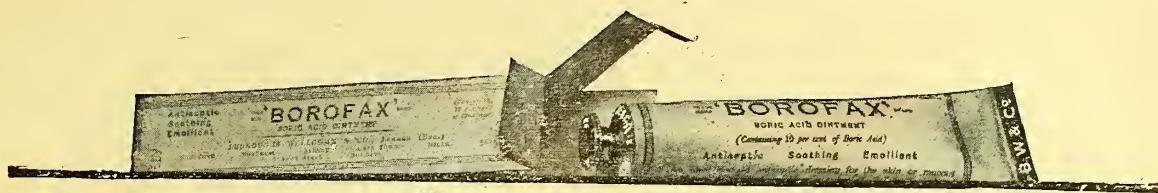
Reminding your public—when looking in your window or, better still, when at your counter—of their need for Musterole....

Ensuring continuous Musterole profits for *your* till.

May we send you a supply of Musterole showcards—free?

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THOS. CHRISTY & CO.,
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new packings for old favourites-

On the assumption that "well displayed is half sold" new cartons and display outers have been designed for 'HAZELINE' CREAM and 'BOROFAX.' Each outer holds one dozen cartons and can be folded to make a handsome sales-compelling addition to any pharmacist's counter. Get in your supplies at once and watch sales increase.

'HAZELINE' CREAM

(Trade Mark)

AND

'BOROFAX'

TRADE MARK

BRAND

BORIC ACID OINTMENT

Well-known high quality products
for the toilet and household use.

Display them to sell them



'Hazeline' Cream, issued in convenient, collapsible tubes of two sizes, at 7/6 and 15/- per doz. respectively, and in screw-capped glass pots, at 18/- per doz. (subject).

'Borofax,' in collapsible tubes of two sizes, 7/6 and 15/- per doz. (subject).

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LONDON**

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THE BRITISH DRUG HOUSES LTD.

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THE BRITISH DENTAL CREAM

*Beauty
and
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Kalosan is acknowledged to be the "last word" in tooth pastes.

P.A.T.A. PRICES

Retail -	1/3
Per doz. net	
Wholesale	9/6

SPECIAL TERMS FOR DISPLAYS

	Per doz. net
3 doz. -	9/3
6 " "	9/-
12 " "	8/9

With each order we include attractive show-boxes, show-cards, post-cards, and miniature sample tubes (in cartons).

Specimen tube free to any Pharmacist on request

Graham Street, City Road,
LONDON, N.I.



A WEEKLY JOURNAL OF PHARMACY AND OF THE CHEMICAL AND DRUG TRADES

THE CHEMIST AND DRUGGIST is in circulation and reputation the leading journal addressing the Chemical and Drug trades in the British Empire and other countries in the Old and New Worlds. It is the official organ of the Pharmaceutical Society of Ireland, the Chemists' and Druggists' Society of Ireland, and of other Chemists' Societies in the Overseas Dominions.

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Prix de l'abonnement annuel : le journal une fois par semaine, et l'agenda une fois par an, 20s., franco.

Il prezzo dell'abbonamento annuo è di 20 sc. franco, e s'intende per un numero settimanale del periodico ed un esemplare del diario annuale.

El mejor periódico semanal publicado en Inglaterra, su precio es de 20 chelines por año, indispensable para la industria. También el Editor facilita á sus Abonados por mediación del mismo periódico información respecto á todo lo que sea en el ramo de química. Ejemplar 1 chelin.

TERMS FOR ADVERTISING may be obtained on application to the Publisher.

Head Office : 42 CANNON STREET, LONDON, E.C.4

Telegrams: "Chemicus, Cannon, London." Telephone: Central 3617 (3 lines).

Branch Offices: 49 County Buildings, 4 Cannon Street, Manchester. (Telephone: City 52.) Melbourne and Sydney, Australia.

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Coming Events

This section is reserved for advance notices of meetings or other events. These should be received by Wednesday of the week before the meetings, etc., occur.

Wednesday, April 2

Liverpool Chemists' Association, Adelphi Hotel at 7 p.m. Annual smoking concert. Proceeds in aid of the Benevolent Fund of the Pharmaceutical Society.

Thursday, April 3

North London Pharmaceutical Association, Restaurant Frascati, Oxford Street, W.1, at 7 p.m. Annual dinner. Reception at 6.30 p.m. Tickets from Mr. H. Skinner.

Pharmaceutical Society of Great Britain (Sheffield Branch), Church House, St. James' Street, at 3 p.m. Address by Mr. A. R. Melhuish, Ph.C. (member of Council).

SOUTH-WEST LONDON CHEMISTS' ASSOCIATION.—A whist drive will be held at the Clarence Rooms, Coldharbour Lane, S.W.9, on April 9 at 7 p.m. Tickets (2s. 6d. each) before April 3 from D. Andrew Rees (secretary).

English and Welsh News

The Editor would be obliged if subscribers will send him marked copies of newspapers containing items of interest for insertion in this or other news sections.

Contracts

The following tenders have been accepted by the bodies named :—

Deepwade Guardians.—Mr. R. C. Hannant, chemist and druggist, Harleston, drugs and sundries.

Evesham Guardians.—Mr. W. J. Craven, chemist and druggist, drugs.

Faversham Rural Council.—Mr. J. T. T. Rolfe, chemist and druggist, drugs.

Portsmouth Guardians.—Manners & Hopkinson, London, drugs.

Romsey Guardians.—Mr. F. Oram, Ph.C., drugs and dressings.

Sudbury Guardians.—Mr. R. W. Wardman, chemist and druggist, drugs.

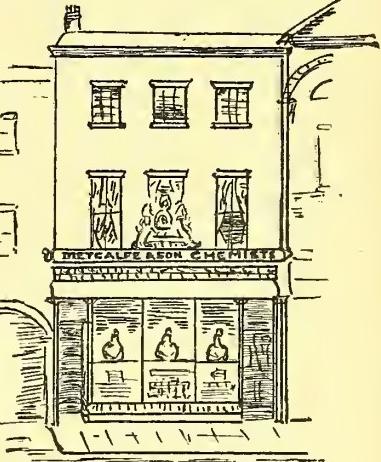
Trowbridge Guardians.—Mr. E. J. Hughes, chemist and druggist, Melksham, sundries.

At a recent meeting of the Walsall Guardians, when the chairman of the contracts committee moved the acceptance of the tenders for drugs (Boots Ltd.) and dressings (Mr. H. H. Thatcher, chemist and druggist), a member urged that contracts for these supplies should be given to local tradesmen instead of what he called "The American Trust." The chairman said the lowest tender for drugs was accepted. Some of the local chemists did not tender for more than half of the drugs required. It was suggested that the drug contract should be split up amongst local chemists. The chairman said that there was no question of favouritism or sympathy with limited liability companies. The committee desired to get the best as cheaply as possible. The tenders were accepted as recommended.

Old Business Closed

Interesting details were given in the "Hull Times" of March 22 concerning the history of the business of Metcalfe & Son, chemists, 13 Whitefriargate, which, as mentioned in our last week's issue, has just been closed.

The shop was first opened by a chemist, Mr. Bell, in 1836. It appears that he was a keen fisherman, and occasionally closed his establishment for a day so as to indulge in this hobby. In 1854 Mr. C. L. Metcalfe purchased the business, and eventually he took into partnership his son, Mr. A. P. Metcalfe, Ph.C., who now retires after forty-seven years of pharmacy. Messrs. Metcalfe had a large shipping connection, and half a century ago the firm received an appointment, since twice renewed, to the late King Edward VII. Some of the carboys, cupping glasses, and other utensils have been purchased for the Hull Museum, in which, it is understood, an old-time pharmacy is to be reproduced, so far as possible.



Fires

The following outbreaks of fire have been recorded since our last report :—

At Burnley, on March 20, a fire broke out on the premises of Hartleys, Cash Chemists, 82 Accrington Road, but was soon extinguished. The cause of the outbreak is unknown.

An outbreak of fire was caused recently at the pharmacy of Mr. H. W. Neathercoat, Aldwych, London, W.C., by goods coming in contact with a lighted gas ring. The damage was slight.

Premises occupied by Dr. Hogyes' Asbestos Sock Co., Ltd., Granville Square, London, W.C.1, and an adjoining building used by Orthopaedists, Ltd., were involved in an outbreak of fire on March 20.

A small outbreak of fire occurred, on March 21, at the pharmacy of Mr. C. F. Thackray, Ph.C., Great George Street, Leeds, originating in a top-floor stock-room. The fire was quickly discovered and soon under control.

POISONINGS

The following cases of fatal poisoning, among others, have been recorded since our last report:—

Mercuric chloride tablets, taken in mistake for aspirin, were responsible for the death at Liverpool of Gertrude A. Smith, a nurse. A "Misadventure" verdict was given at the inquest.

At Worcester, Miss Annie Harris (65) died from an accidental overdose of aspirin. The coroner's jury recommended that a cautionary label should be attached to every bottle of aspirin tablets.

Lysol was the cause of death in the case of Mrs. E. M. Perrott, wife of a Paddington tinsmith, who committed suicide while of unsound mind. A medical witness, asked at the inquest on March 24 how much was a fatal dose of lysol, suggested that probably 5ss. on an empty stomach would cause death.

At Brighton, an adjourned inquest on Mildred C. Maffey, a probationer nurse, resulted in a verdict to the effect that death had resulted from gastro-enteritis caused by swallowing poison. Dr. S. A. Woodhead, public analyst for East Sussex, said, however, that the only indication of poison was a mere trace of a salt of carbolic acid or cresol.

At Methwold, on March 21, an inquest was held on the body of Mr. Frederick Josiah Buttifant (56), assistant to his father, Mr. J. F. Buttifant, chemist and druggist. It appeared that the body was found in Glebe Wood, with a bottle marked hydrocyanic acid close by. Medical evidence showed that death was due to poison, and that for some time past the deceased had been depressed. A verdict of "Suicide while of unsound mind" was recorded.

At an inquest on William Monks (41), textile machinist, Bolton, on March 20, Stanley Kay said that he was helping to replenish the dispensary-room supplies at Townleys Hospital, when the deceased asked him questions about several of the poisons on the shelf. Witness replied that he would get into trouble if he touched anything. The deceased died from strichnine poisoning. The Coroner recorded a verdict of "Suicide while temporarily of unsound mind." Commenting on the fact that the medicine store was left open, he said the relative positions of the store and dispensary required attention and inquiry.

BIRMINGHAM

The local Chamber of Commerce has written to the Chancellor of the Exchequer urging a reduction in the rate of income-tax and the abolition of corporation profits tax.

Mr. John Glaisyer, who presided at the opening of the Bingley Hall exhibition, is a nephew of the late Mr. Registrar Glaisyer, for many years solicitor to The Chemists' Trade Association.

At a recent meeting of the local branch of the Society of Chemical Industry, Professor G. T. Morgan, F.R.S., was elected chairman, and Mr. F. R. O'Shaughnessy and Dr. Twiss vice-chairmen. At the same meeting Mr. A. W. Knapp, chief chemist of Cadbury Bros., Ltd., read a paper dealing with the fermentation of the coco bean.

LIVERPOOL

"Insulin" is writ large on the window of Clay & Abraham, Ltd., Bold Street.

Mr. E. B. Davies, who is very popular in local drug circles, wholesale and retail, has joined the representative staff of Bovril, Ltd.

A record Grand National week has filled the Liverpool hotels, and chemists in the central area have benefited. Southport has also shared in the fillip to spring business.

The Lord Mayor (Mr. Arnold Rushton) has consented to be present at the annual smoking concert of the Liverpool Chemists' Association at the Adelphi on April 2.

Since the "N.P.L." standardised clinical thermometer of war years is no longer compulsory, considerable annoyance is being experienced in selling foreign articles apt to be returned as unreliable.

A young pharmacist from the North-West Coast visited Liverpool the other day to look for a lock-up shop. He had believed the fairy tale that half-crown black draughts were the rule, but on learning that in some quarters threepenny draughts might be had, he retreated.

A movement is on foot to secure co-operation in a publicity effort aiming at a "Brighter Liverpool," both as to trade and recreations. The Publicity Club has offered its co-operation, and both Birkenhead and Wallasey are supporting the project.

The fancy dress carnival held by the staff of Ayrton, Saunders & Co., Ltd., on March 21, was a highly successful affair, great ingenuity being displayed in many of the costumes. The special prize given by the directors for the best costume relative to the firm was secured by Miss Edna Leary, who appeared as a newspaper street-urchin, Pain-Killing Liniment being the feature of the placard.

MANCHESTER

The University students' collection referred to in our issue of March 8 (p. 325) amounted to £2,397.

Many pharmacists and their assistants are down with "flu," which has been prevalent for some weeks. Curtailed staffs have been kept very busy.

By an error in transcribing, the name of Mr. W. R. Blain, Ph.C., was wrongly spelt in the account of the visit of the Pharmaceutical Society's Bolton Branch to Manchester University in our last week's issue.



Photo]

[Cleworth

BOLTON BRANCH OF THE PHARMACEUTICAL SOCIETY AND MR. JAMES GRIER, M.Sc., AT MANCHESTER UNIVERSITY (C. & D., March 22, p. 396)

Sir William Milligan, the Manchester specialist, remarked, in the course of an address on March 24 at St. James's Church, that the lust for power, position and wealth so often occupied the attention of mankind that the last thing a person considered was his health. Health was often sacrificed for wealth. This was demonstrated every day by the rapidly increasing numbers of people suffering from nervous diseases, and if he was not much mistaken this was a factor in the incidence of cancerous disease.

The luncheon which was held at the Midland Hotel, on March 19, in honour of the visit of Sir William and Lady Glyn-Jones, was quite a happy gathering. Speeches were few and brief, but the words of thanks and approbation expressed by Lady Glyn-Jones in a most charming manner will long be remembered by those who were fortunate enough to be present. After the luncheon (and while their "men folks" were otherwise engaged in the business of the afternoon), some Manchester ladies conducted Lady Glyn-Jones round the shops and other interesting places.

The death of a patient after the administration of Insulin, at a Willington institution, was inquired into by the Manchester city coroner on March 26. Evidence showed that the man had twice previously been in hospital with diabetes. When readmitted he weighed only 5 st. 6 lb. On March 24 ten units of Insulin were given him before breakfast and the same small dose at 6 p.m. An hour later the patient collapsed; glucose was administered, but he died at midnight. Dr. G. W. Dawson, pathologist to the Manchester Union Hospitals, said that death was due to the effect of the Insulin, but he had no doubt that the dose given was reasonable. Dr. Norman Kletz gave a similar opinion, and the coroner remarked that the case was not unlike those of persons unable to stand the administration of an anaesthetic. A verdict of "Death from misadventure" was returned.

Sheffield

William Fox & Sons (Sheffield), Ltd., are offering photographic goods at reduced prices.

The death of Dr. R. B. Greaves, late of the Sheffield College of Pharmacy, will be received with regret by chemists. (See p. 455.)

Dr. Renner, senior assistant in the chemistry department of the University of Sheffield, has been appointed Professor of Chemistry at the University of Sydney.

Most of the artists at the recent "Hot-Pot" supper gave their services out of compliment to the President, Mr. H. B. Hammond, who is popular in musical circles.

Miscellaneous

THE WELLCOME HISTORICAL MEDICAL MUSEUM will be closed from April 1 to 30, inclusive, for redecoration and cleaning.

SHOPPING FESTIVALS.—Among shopping carnivals arranged to take place shortly are one at Exeter, April 1 to 12, and another at Otley, April 28 to May 3.

POISON-LICENCE APPLICATION.—Mr. J. P. Pinniger, Osborne Cottage, Warminster, has applied to the Wiltshire County Council for a licence under Section 2 of the Poisons and Pharmacy Act, 1908.

IN THE COURTS.—At Pontefract, on March 22, Taylors' Drug Co., Ltd., were ordered to pay poor rate on an empty shop at Hemsworth. Notice of appeal was given.—At Colchester, recently, a soldier named Miller was sentenced to a month's imprisonment for damaging a plate-glass window to the extent of £8 at the shop of Boots, Ltd., Long Wyre Street.—At Kingston-on-Thames, on March 26, Leonard Thomas Yates, mineral water manufacturer, was fined £25 for harbouring 8 lb. of uncustomed saccharin. The saccharin was confiscated.

BIRKBECK COLLEGE CENTENARY.—The Centenary Foundation oration was delivered at the Birkbeck College, London, W.C., on March 20, by Mr. Stanley Baldwin, M.P. After an outline of the history of the College had been given by the Vice-Chancellor of London University, the Principal (Dr. George Senter, Ph.C.) read a report on the work of the institution. He appealed for funds for the extension of the College buildings, and emphasised the need for scholarships to enable students to devote their whole time to study. It is announced that the sum of £9,000 has been left to Birkbeck College by a former student, Dr. Aaron Sims. The interest on the money is to be given in prizes for proficiency in German, French, Italian, Dutch and Portuguese.

PRIVATE ARRANGEMENT.—The creditors of Mr. Charles Lumley (trading as C. Lumley & Co.), wholesale drug-

gist, 133A Coleman Street, Wolverhampton, met on March 21 at Birmingham, when the representative of Williams, Ltd., Bootle, was elected to the chair. The statement of affairs showed ranking liabilities £1,820 3s. 11d., of which £1,504 2s. was due to trade creditors. There were also fully secured creditors for £1,268 12s. 11d. The assets consisted of: Stock-in-trade, estimated to realise £699 6s. 4d.; book debts, expected to produce £659 4s. 10d.; utensils, £5; motor-van, £35; leaving a deficiency of £518 7s. 5d. It was decided that the debtor's offer of 10s. in the £ should be accepted, provided it was paid within three months and guaranteed to the satisfaction of the trustee and committee. The following are among the creditors:—Cusson, Sons & Co., Ltd., £10; Cadbury Bros., Ltd., £132; J. S. Fry & Son, Ltd., £75; General Kaputine, Ltd., £12; Ham Frith Chemical Co., £26; Nestlés, Ltd., £47; Potter & Clarke, Ltd., £15.

Scottish News

Brevities

At the exhibition of the Kirkcaldy Photographic Society Mr. C. Stewart, chemist and druggist, the President, is showing flower studies and Mr. D. Storrar, chemist and druggist, landscapes.

A number of presentations have been made to Mrs. Henderson, wife of Mr. D. J. Henderson, chemist and druggist, Carnoustie, and Miss D. C. Henderson, their daughter, in connection with the family's departure for Australia, where Miss Henderson is to be married, and in recognition of their work on behalf of local interests.

The centenary dinner of J. Pullar & Sons, Ltd., Perth, was announced for March 26, when a large and representative gathering was to be entertained. The present business was founded by John Pullar, on March 5, 1824, in Burt's Close, Perth, mainly, it would appear, to dye yarn for his father's handloom factory and a few local businesses. Of the 2,000 present workers, over 500 have been connected with the company for twenty-five years and more. At the recent dinner given by the directors to the veteran employees of the company, 73 workers, with a total service of 3,540 years, were present.

Edinburgh

A sale of work is to be held by Edinburgh Pharmacy Athletic Club, in Broughton Halls, on April 2.

At the recent annual general meeting of the Edinburgh and East of Scotland Section of the Society of Chemical Industry, Dr. A. Lauder was re-elected chairman, and Mr. W. A. Williams was appointed vice-chairman. A paper was read on "Co-ordination and Co-valency," by Dr. N. V. Sidgwick, who dealt with recent theories of the structure of the atom and their application to various problems in chemistry.

Glasgow

Glasgow Corporation has remitted to a special committee the question of the advisability of promoting an international exhibition, probably three years hence.

At Glasgow Central Police Court, on March 25, a man charged under the Dangerous Drugs Act, with uttering as genuine a prescription for morphine and cocaine, the signature of which was forged, was remitted to the Sheriff.

Mr. Thomas Macmaster, chemist and druggist, 322 and 510 Dumbarton Road, Partick, has acquired the business of Mr. S. Levine, chemist and druggist, 190 Dumbarton Road, and Mr. W. Crawford Macmaster, chemist and druggist, is in charge.

Sir James M. Barrie's comedy, "Dear Brutus," will be performed by the dramatic section of the Glasgow Pharmacy Club in the Atheneum Theatre, on March 31 and April 1 and 2, at 7.45 p.m. The prices of admission are 2s. 4d. and 1s. 3d.

Irish News

Brevities

The Committee of Management of the Cork Mental Hospital has accepted the tender of the Cork Chemical and Drug Co., Ltd., for the ensuing half-year at a discount off the Local Government list of 26½ per cent. for medicines and 10 per cent. for surgical appliances.

Belfast

At the annual meeting of the Belfast Wholesale Merchants' and Manufacturers' Association, on March 20, Mr. T. W. McMullan, M.P. (Thos. McMullan & Co., wholesale druggists) was elected to the presidential chair. Mr. McMullan was unable to be present owing to illness. Colonel Horace Haslett (J. & J. Haslett, Ltd., wholesale druggists) was elected Vice-President, and the new Committee includes the following representatives of the drug trade: Messrs. Wm. Doig, Jas. A. MacCormac (Messrs. Elliott, Thompson & Blair) and George Wilson, J.P. (Messrs. Jordan, Wilson & Alexander). At the annual dinner Mr. Samuel Ross congratulated the members on having elected as their President Mr. T. W. McMullan. Mr. McMullan's father and uncle were two of the principal men who assisted, thirty years ago, in the formation of the Association.

Dublin

All the employees of Hugh Moore & Alexanders, Ltd., Dublin, have returned to work, the dispute referred to last week having been amicably settled.

Mr. J. Ryan, 20 Fowness Street, Dublin, has been appointed sole Irish representative for Robert Blackie, Shen Works, Tower Bridge Road, London, S.E.

At a recent meeting of the Catholic Total Abstinence Federation the subject of licences granted to merchants and others was considered, and it was decided to direct the attention of the Government to the many abuses arising therefrom, and to recommend the embodiment of some measures of restriction in the promised temperance legislation.

At the meeting of the Senate, on March 20, a resolution was passed expressing the opinion that ether, chloroform and other drugs used in the relief of the sick should be free from taxation, and that arrangements should be made to obviate delay in transmission. Dr. O'Sullivan, who moved the resolution, instanced two cases where patients had died before ordered drugs arrived from England.

Londonderry

Mr. H. E. Young, Ph.C., Strand Road, Londonderry, has returned to business after his recent illness.

Londonderry City Council invite applications for a qualified analyst for the county borough at a yearly retainer of £26 and a fee of 5s. for each sample.

Chemists' Wine Licences

A largely-attended meeting of the chemists and druggists interested in compensation for wine licences under the Intoxicating Liquor Act (Northern Ireland), 1923, met at 11 Waring Street, Belfast, on March 19. After discussion it was unanimously agreed that an accountant be appointed to present the cases of the members before the Government assessor, and the hon. secretary was directed to issue a circular advising the trade. A committee was appointed (Messrs. A. Wilson, J. C. Culbert, Samuel Suffern, Jas. Dundee, J. Brown, S. Gibson and H. Lancashire) to make the appointment of accountant and to draft a circular explaining the position of the trade, also to undertake any other matters connected with compensation claims that might arise. A call of £2 2s. will be made on those using this co-operative plan.—On March 20 the subcommittee met, and appointed Mr. Oughton (Oughton, Boyd & Co.) as accountant. It was arranged that those who replied within seven days to the circular which was drafted, and enclosing their subscription, would be accepted, it being assumed that those who did not reply were dealing with their own cases individually.

Legal Reports

Irregular Practice of Dentistry.—At Old Street Police Court, London, on March 25, Percy Frank, High Street, Shoreditch, E., was summoned for practising dentistry, he not being registered, and his father, Abraham Frank, dentist, was summoned for aiding and abetting. It was stated that a solicitor's clerk went to the premises to have a broken denture mended, and the younger defendant took an impression of his mouth. Mr. Robinson, defending, contended that there was no evidence that the elder defendant had aided and abetted. Each defendant was fined £21, with £5 5s. costs.

Action in Respect of Personal Injuries.—In Bow County Court, London, on March 24, John Miller, driver, Turner's Road, sued A. Boake, Roberts & Co., Ltd., manufacturing chemists, Carpenter's Road, E., to recover the sum of £50 damages for personal injuries. The plaintiff, giving evidence, said that while he was on his way to the London Hospital to be massaged he stepped off the pavement and got in front of an approaching bus; on passing in front of it he was knocked down by the defendants' motor-car, no warning being given to him. The jury, after a short retirement, returned a verdict for the defendants. Judgment was entered accordingly, with costs.

Validity of a Contract Disputed.—In the Chancery Division of the High Court, London, on March 19 and 20, Mr. Justice P. O. Lawrence concluded the hearing of the action brought by the York Glass Co., Ltd., Fishergate, York, against Mr. Thomas Jubb, Hunslet, Leeds, for specific performance of an agreement dated October 16, 1922, to purchase the plaintiffs' freehold glassworks, plant and stock for £54,600 (*C. & D.*, March 22, p. 399). At the close of Mr. Preston's speech for the plaintiffs, his lordship said he was satisfied that Mr. Jubb was insane at the material dates, but not to the knowledge of the plaintiffs. Mr. Jubb was not a victim of imposition. The question the Court had to decide was whether the plaintiffs had an enforceable contract. Mr. Archer, K.C., for Mr. Jubb, submitted that the contract was infirm in a court of equity, and that in the circumstances it should not be enforced. He did not suggest any fraudulent conduct on the part of those acting for the plaintiff company, but urged that now they knew Mr. Jubb was insane at the time it was "unconscionable" on their part to insist upon the alleged contract being fulfilled. Counsel submitted that where, as in this case, one of two innocent persons had to suffer, it would be unjust, unreasonable and unfair that it should be Mr. Jubb, who was incapable of understanding the bargain he was making. Mr. Preston said that the plaintiffs would be satisfied with damages instead of specific performance. His lordship said he would treat the action as a claim for damages only. He reserved judgment.

Gazette

Partnerships Dissolved

HIGHAM, J. R., and BLACKBURN, N., 33 Clayton Street, Blackburn, wholesale druggists and confectioners, under the style of The Blackburn Confectionery Co.

Bankruptcy Acts

RECEIVING ORDERS AND ADJUDICATIONS

ARKELL, C. D., 40 Brighton Street, Coventry, drug-store holder.

HALMSHAW, W., late of 44 Prospect Road, and 8 Union Street, Scarborough, chemist.

ADJUDICATION

BOWSHER, R. W. G., The Pharmacy, Amesbury, Wilts.

FEWER UNEMPLOYED.—The number of persons recorded on the registers of employment exchanges in Great Britain on March 17 was 1,094,106. This was 19,725 less than on March 10, and 191,523 less than the figure recorded on December 31, 1923.

New Companies and Company News

P.G. means Private Company and R.O. Registered Office.

SAVAGE (CHEMIST), LTD. (P.C.).—Capital £1,000. Objects : To acquire the business of chemists and druggists carried on by H. A. Savage and Kathleen M. Savage at 53 Station Road, Burnham-on-Crouch. The directors are H. A. Savage and Kathleen M. Savage. R.O. : 53 Station Road, Burnham-on-Crouch.

HAYES (MIDDLESEX) DRUG STORES, LTD. (P.C.).—Capital £500. Objects : To acquire the business of a chemist and druggist now carried on by C. E. Gaylard at Hayes, Middlesex, and to carry on the same and the business of opticians, etc. The first director is C. E. Gaylard. R.O. : Station Approach, Station Road, Hayes.

LABORATORY NATIVELLE, LTD. (P.C.).—Capital £100. Objects : To import "Digitaline Nativelle" and other preparations and chemical products from France for sale in Great Britain and the Free State of Ireland. The directors are Marie J. I. Lasnier, Marie Matignac, and C. R. Stewart. R.O. : 15 Great St. Andrew Street, London, W.C.2.

SAMUEL BROADBENT, LTD. (P.C.).—Capital £3,000. Objects : To acquire the business of a chemist and druggist now carried on by Mary Broadbent as "Broadbent's Pharmacy," at 1177 Chester Road, Stretford, Lancs. Miss Mary Broadbent is permanent governing and managing director and chairman. R.O. : 1177 Chester Road, Stretford.

H. W. CARTER & CO., LTD. (P.C.).—Capital £30,000. Objects : To acquire the business of a cordial and mineral water manufacturer and bottler now carried on as a branch business under the name of H. W. Carter & Co., by Bristol Industries, Ltd. The directors are : W. D. Armstrong, F. D. Armstrong, and J. T. Knight. R.O. : The Old Refinery, Wilder Street, Bristol.

HASSALL & CO., LTD. (P.C.).—Capital £8,000. Objects : To acquire the business of chemical manufacturers carried on by the executors of Abner Hassall as "Hassall & Co.," at Stratford, E., and to carry on the business of chemical manufacturers, chemists, druggists, dyers, drysalters, oil and colour men, etc. The directors are : H. J. Holloway, J. C. Hassall, and H. D. Squire.

MICHELL DRUG CO., LTD. (P.C.).—Capital £1,000. Objects : To acquire the business of a manufacturer of ointment and lotion known as "Medicon" now carried on by F. Radcliffe at 18 Doughty Street, W.C.1, as the "Mitchell Drng Co." The directors are : F. Radcliffe, C. W. Radcliffe, A. C. Radcliffe, J. E. Jewell, C. J. Wray, and H. Beswick. Solicitor : C. J. Wray, 166 Piccadilly, London, W.

HUGGINS' PHARMACIES, LTD. (P.C.).—Capital £300. Objects : To acquire Huggins' Drug Stores at 153 Greyhound Road, Fulham, and to carry on the business of chemists, druggists, drug-store proprietors, opticians, stationers, patent medicine proprietors, wine and spirit merchants, etc. The directors are : H. Huggins, Mrs. Ruth Huggins, and E. A. Hodson. R.O. : 153 Greyhound Road, Fulham, London, S.W.6.

N. HUNT, LTD. (P.C.).—Capital £1,000. Objects : To acquire the business of a chemist and druggist, manufacturer of and dealer in medical and pharmaceutical specialities, dealer in photographic sundries, oils, colours and British and foreign wines now carried on by W. N. S. Hunt at 76 Market Place, Great Bridge, Staffs. The directors are W. N. S. Hunt and J. H. Coleman. R.O. : 76 Market Place, Great Bridge, Tipton.

WHEELER & HUISKING, LTD. (P.C.).—Capital £12,000. Objects : To take over (1) the business of importers and exporters of drugs, spices and essential oils, carried on by Henry Wheeler & Son, 9 Great Tower Street, E.C., and (2) the business of importers and exporters of drugs, chemicals and essential oils carried on by Chas. L. Huisking, Ltd., 74 Great Tower Street, E.C. The directors are : A. T. Wheeler, J. F. Potton, and E. J.

Shortt. A. T. Wheeler is permanent governing director subject to holding one-third of the issued capital. In the event of his vacating office, J. F. Potton shall be permanent governing director so long as he holds one-tenth of the issued capital. R.O. : 9 Great Tower Street, London, E.C.

JOSEPH TRAVERS & SONS, LTD., announce a dividend of 17½ per cent. on the ordinary shares for 1923.

W. CANNING & CO., LTD., Birmingham, announce a dividend at rate of 10 per cent. per annum, less tax, for 1923.

A. D. CHESTER & CO., LTD.—A meeting of the creditors of this company was held in London on March 25. The chair was taken by Mr. W. Abbott, liquidator in the voluntary liquidation of the company. It was stated that the liabilities amounted to £2,588 17s., while the assets were approximately £500. The following are among the creditors :—Victor Blagden & Co., Ltd., £14; Blythe & Co., £17; Gough, Kidston & Co., £13; Pilchers, Ltd., £14; Venesta, Ltd., £10.

Safeguarding of Industries Act Rongalite Decision

MR. CYRIL ATKINSON, the Referee under Part I of the Safeguarding of Industries Act, 1921, heard the complaint relating to Rongalite (sodium formaldehyde sulphoxylate) and zinc formaldehyde sulphoxylate at the Board of Trade on March 8, 11, 12 and 13, the complainants being the Colour Users' Association. The evidence was fully reported in THE CHEMIST AND DRUGGIST, March 15 and 22. Mr. Kenneth R. Swan and Mr. R. Lambert Parry, instructed by Stephenson, Harwood & Tatham, represented the Colour Users' Association. The Board of Trade was represented by Mr. Trevor Watson, and was supported by Brotherton & Co., Ltd., who were represented by Sir Arthur Colefax, K.C., and Mr. R. Moritz.

The Referee has now issued his award, which is as follows :—The question in this reference is whether sodium formaldehyde sulphoxylate and zinc formaldehyde sulphoxylate and the various forms in which they are marketed are properly included in the list published by the Board of Trade. It is unnecessary to decide whether they are fine chemicals or analytical reagents, as, in my opinion, they are properly included in the list as synthetic organic chemicals.

It is scarcely contended that the substances are not organic, but it is strenuously urged that the definition of synthetic organic chemicals ought to be restricted to such organic compounds as are built up from their elements or from such other organic groups as can themselves be built up from their elements. It is sought to exclude from the conception of organic synthesis those syntheses in which an inorganic molecule is combined with an organic molecule.

In the camphor case I refused to accept such a restricted view, and I am not prepared to do so now. I think that such combinations are organic syntheses provided that they result in the formation of a structure not previously present. I think that the complainants have probably proceeded with this complaint relying on a recent article in "Chemistry and Industry," by Sir William Pope. They would have a strong case if that article expressed the whole view of Sir William Pope, but I am satisfied that it does not. I accept entirely his evidence as to that. Incidentally I may point out that the statement in the article that I decided that calcium carbide was not synthetic is wholly inaccurate. The question of synthesis was not dealt with at all in my award dealing with calcium carbide. Calcium carbide was not in the Board of Trade list, and I declined to order it to be inserted because I was satisfied that the Board was right in taking the view that calcium carbide was not so generally regarded as an organic chemical as to justify its inclusion.

Pharmaceutical Botany

XL. Thymelaceæ—Mezereon

THE Thymelaceæ consist generally of shrubs or small trees remarkable for the flexibility and toughness of their inner bark, the bast fibres being so strong that it is almost impossible to tear them across. This is a well-marked feature of the mezereon bark of commerce, which may be derived from three species of *Daphne* (see below). The plants in the order have entire leaves without stipules. The flowers are usually sessile (in small clusters or solitary) and usually sweet-scented. The tubular perianth tube (Fig. 163) is one of the characteristics of the order. This has four or five lobes and bears twice as many stamens. It corresponds to the calyx, the petals being usually missing (but present in some genera). The superior ovary has a short



FIG. 162.—DAPHNE MEZEREAUM

unbranched style and contains only one ovule hanging therein.

In the genus *Daphne* the segments of the calyx tube number four, and the anthers of the eight stamens are arranged at two levels, both of which are a little above the globose stigma (Fig. 163). Although only $\frac{1}{2}$ in. separates these, self-pollination rarely occurs, as the flowers are placed horizontally; but bees are industrious in taking pollen from flower to flower. The fruit is usually called a berry, but it is peculiar in that the outer layer of the seedcoat or testa contributes to the fleshy covering (pericarp), only the inner portion of the testa becoming hard.

The Mezereon (*Daphne mezereum*, Linné) is frequently grown in gardens for the beauty and fragrance of its flowers, which appear in early spring when blossoms are rare. It may sometimes be found growing wild in the South of England. The plant is a dwarf bush with a few erect branches about 1 ft. to 3 ft. high. The lanceolate leaves appear in tufts after the flowers are open and above them. When fully expanded the leaves are 2 in. to 3 in. long (Fig. 162). They are deciduous, in contrast to the evergreen leaves of the spurge laurel (see below). The fruits (Fig. 162) are red in colour and about the size of a pea. Though birds eat them

with avidity and apparently with impunity, the pulpy covering is poisonous to mankind.

The spurge laurel (*Daphne laureola*, Linné) is easily distinguished from mezereon by its bright evergreen leaves with inconspicuous green scentless flowers in their axils (Fig. 164). The berries are bluish black. Though the leaves differ in duration, and the flowers contrast

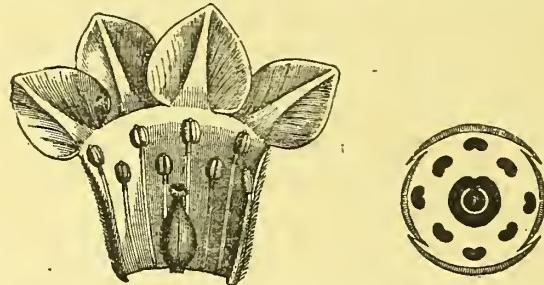


FIG. 163.—Flower (cut open) and Floral Diagram of *D. MEZEREAUM*
strongly in position, colour, and odour, the barks are not unlike.

The stem bark of spurge laurel has purplish grey cork and is easily distinguishable owing to the crowding together of the leaf scars, which are somewhat elongated. The stem bark of *D. mezereum* is yellowish brown, with round scattered leaf traces. The root bark of this species is also collected, and in olden days was preferred by herbalists in this country. The bark of the spurge flax

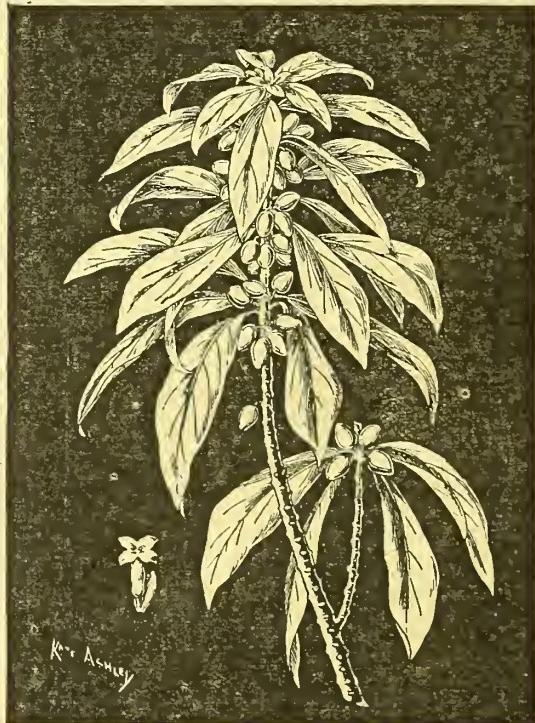


FIG. 164.—DAPHNE LAUREOLA

(*Daphne gnidium*) is gathered in France and Algeria, and closely resembles the bark of *D. mezereum* in appearance and properties.

The inner surface of mezereon bark is pale yellow or white with a silvery lustre, due to closely woven bast fibres, which make it almost unbreakable. The bark has a burning taste and reddens the skin when applied moist. It contains an acrid amorphous resin (mezerein), but its use as a vesicant ceased long ago. The inclusion of mezereon bark in modern medicine is declining, as compound decoction of sarsaparilla, of which it is an ingredient, loses favour year by year.

The Progress of Pharmacy AND ALLIED SCIENCES

PHARMACY

Calcium Bromide Syrup.—The ninth subcommission of the French Codex, in its report, suggests the addition to the pharmacopœia of a syrup of calcium bromide of the following composition :—

Calcium bromide	... ... ...	25 grams.
Distilled water	... ... ...	15 grams.
Syrup of orange flower	... ...	100 grams.
Syrup	... ... ...	860 grams.

Tincture of Ginger.—J. R. Randolph and G. M. Beringer have prepared tinctures by percolating ginger with menstrua of different alcoholic strengths ("Journal of the American Pharmaceutical Association," January, p. 27). The tabular statement shows that extract is complete with alcohol of 75 to 77 per cent. strength or above, but falls off rapidly below this. The weak tinctures also precipitate an increasing amount of sediment as the alcoholic strength diminishes.

Liquid Extracts.—In its report the ninth subcommission of the French Codex recommends an alteration in the method of preparing liquid extracts. The French pharmacopœia requires that the first portion of the percolate, amounting to 800 grams, shall be set aside, and that the second portion be concentrated to yield 200 grams, whereupon both portions are mixed. The commission suggests that the second portion should be concentrated to the consistency of a soft extract, which is then dissolved in the first portion—i.e., the 800 grams set aside, and the weight completed to 1,000 grams by the addition of alcohol of the prescribed strength.

Atophan Mixture.—“Archiv for Pharmaci og Chemi” (March 15, 1924) contains the following formula for the preparation of an atophan sodium mixture :—

Atophan	... ... ...	10 grams.
mix with		
Syrup	... ... ...	40 grams.
and add		
Volumetric solution of sodium hydroxide	44 grams.	

Liquefy at a gentle heat, and when solution is completed, add

Extract of liquorice	... ...	10 grams.
Spirit of benzoic acid (10 per cent.)	... ...	1.7 grams.
Distilled water	... ...	q.s. ad 170 grams.

Preparation of Hæmoglobin.—R. M. Ferry ("Journal of Biological Chemistry," 1923, 819, describes a method of preparing hæmoglobin. The corpuscles from citrated horse blood are washed six times with 1.5 per cent. sodium chloride solution and then centrifuged in a high-speed centrifuge. The resulting paste is diluted with three to four times its own volume of water, which causes nearly complete hæmolysis, and solid sodium chloride is then added to produce a 2 per cent. solution. This is again centrifuged, and the solution so obtained is purified first by dialysis for three days in collodion membranes and finally by the method of negative pressure dialysis. All the operations are performed in a cold room at 2°. A solution of practically pure hæmoglobin, together with a crystalline deposit, is thus obtained.

New Ointment Basis.—In reviewing the progress realised in improving existing bases for ointments, J. Lifschütz ("Pharmazeutische Zentralhalle," 1923, 305) points out that wool fat presents certain chemical and physical disadvantages. It reduces metallic compounds, and forms a combination with free iodine, while its tenacity and odour militate against its use. On the other hand, paraffin presents the disadvantage of not absorbing any appreciable quantities of water. It was found that the water absorbing properties of wool fat are attributable to its content of free alcohols, which are present to the extent of 5 to 8 per cent. On adding 3 per cent. of these alcohols to paraffin, or vaseline, the latter acquires the property of absorbing a high content of water, as much as 300 to 400 per cent. This combination is present in eucerin, which, in the author's opinion, most closely approximates the ideal ointment basis for general purposes.

Non-bitter Liquid Extract of Cascara Sagrada.—The report of the ninth subcommission for the revision of the French Codex suggests the following formula for the preparation of a non-bitter liquid extract of cascara sagrada, to be included in the next edition :—

Cascara sagrada, in powder	... ...	1,000 grams.
Light magnesia	... ...	80 grams.
Alcohol (50 per cent.)	... ...	q.s.

Mix the two powders and moisten the mixture uniformly with 500 grams of alcohol (50 per cent.); mix the mass until scarcely any particles of magnesia are visible. Macerate in a closed vessel for three days, then exhaust by percolation, setting aside the first portion of 800 grams. Concentrate the residue resulting from the distillation of the second portion to the consistency of a soft extract, which is then dissolved in the first portion of percolate and complete the weight to 1,000 grams by the addition of alcohol (50 per cent.).

Standardisation of Preparations of Gelsemium.—Paul S. Pittenger ("Journal of the American Pharmaceutical Association," December 1923, p. 1063) gives tables comparing the results of chemical and biological methods of assay of preparation of gelsemium. The conclusion arrived at is that chemical assay is unreliable owing to two alkaloids being present of the drug, one (gelseminin) being a powerful poison, and the other (gelsemine) being only slightly active. The toxicity of the preparations as determined by minimum lethal dose in guinea-pig would seem to indicate that these alkaloids are not present in the same proportion always. The assay standards used were : total alkaloids drug 0.4 per cent., tincture 0.04 per cent.; fluid extract, 0.4 per cent., extract 2.0 per cent. Minimum lethal dose in c.c. per 250 gram body weight of guinea-pig : drug (as fluid extract) and fluid extract itself, 0.375; tincture, 2.5, powdered extract, 0.125. There was a parallelism in 50 per cent. of the results given which concern some 120 samples investigated during the past 14 years. In other instance marked differences are shown, biological toxicity being even half or double that indicated by chemical assay.

The Progress of Pharmacy and Allied Sciences

BACTERIOLOGY

Action of Antiseptics on Bacteria and on Leucocytes.—A. Fleming, in a paper presented to the Royal Society on March 6, states that the action of antiseptics is more marked on leucocytes than on bacteria. Thus blood without antiseptic will exert a powerful bactericidal action on staphylococcus, destroying between 90 and 100 per cent., while the addition of many antiseptics in certain concentrations enables almost all implanted bacteria to develop.

The Antiseptic Action of Zinc Aniline Chloride has been investigated by J. W. Howard and F. D. Stimpert ("Journal of the American Chemical Society," December 1923, p. 3,106). They find that in this double salt of aniline with zinc chloride ($C_6H_5NH_2)_2 \cdot ZnCl_2$, $ZnCl_2$ has a bactericidal activity superior to that of either aniline or zinc chloride, being 1.3 times greater than aniline and 5 times more toxic than zinc chloride. The solution (0.6 per cent.) becomes somewhat cloudy after standing for a week at room temperature, and loses its power to kill bacteria. The zinc chloride salt of aniline was made by mixing aniline (10 grams) with finely ground fused zinc chloride (7.5 grams), allowing to stand for one hour, before extracting with boiling 95 per cent. alcohol, from which the compound readily crystallises on cooling as needles softening at 230° and melting at 235° . It dissolves 0.64 gm. in 100 c.c. of water.

New Method of Preparing Vaccines.—Since the first vaccine was prepared by devitalising bacteria at 120° C. up to the introduction of the present method of successive heatings to $56\text{--}57^\circ$ C., bacteriologists have constantly been endeavouring to reduce the degree of heat necessary for sterilisation, as devitalisation at a high temperature diminishes vaccinating properties and increases toxicity ("Lancet," I, 1924, 221). In order to prevent the bacteria from becoming accustomed to freezing, René Zivy submitted the organisms to successive freezing and thawing. The author succeeded in obtaining complete sterilisation by a very simple process : The cultures on gelose are emulsified in physiological salt solution. This solution is dosed with the opacimeter, 50 milliards per c.c. The solution contained in an aluminium tube (glass tubes break) is placed in a freezing apparatus with a constant temperature of -18° C. The tubes are left in the freezing apparatus for five hours, taken out and left another five hours at room temperature (about 16° C.). Thus freezing and thawing has taken place. According to the species of bacteria this operation must be repeated twice for pneumococci and streptococci, four times for *B. coli*, and six times for staphylococci and enterococci. On completion of the requisite number of periods in the freezing apparatus, sterilisation is complete. The original solution is then diluted with physiological salt solution to obtain the required dosage. The non-toxic dose of these vaccines is over 300 mill. bacteria per kg. weight of animal. The dose generally employed in man is only 500 mill. bacteria.

BOTANY

Migration of Phosphorus in Germinating Barley Grains.—M. H. Van Laer and R. Duvinage ("Bulletin de la Société Chimique Belge," 1923, 32, p. 355) have determined the amount of phosphorus in various parts of barley both before and after germination. They find that phosphorus is rendered soluble during germination and migrates from the endosperm to the embryo, but the percentage proportion remains constant in the latter owing to its increase in size. The embryo of the ungerminated grain is also rich in phosphorus, while that of the pericarp (husk or bran) is poor. Soaking induces a loss of about 10 per cent. of phosphorus from the pericarp and endosperm.

AGRICULTURAL CHEMISTRY

Sulphur in Soil Improvement.—J. G. Lipman ("Industrial and Engineering Chemistry," I, 1924, p. 250) presents data to show that sulphur ground to pass 200-, 80-

and 20-mesh sieves, respectively, is effective, in the order given, in controlling potato scab. Commercial fertiliser, in which the nitrogen was derived from ammonium sulphate and sodium nitrate, respectively, was used together with sulphur. Better control of potato scab was obtained where the nitrogen was obtained from ammonium sulphate. Sulphur diluted with an equal quantity of ground phosphate rock seems to give better control of potato scab than the same quantity of sulphur without the admixture of phosphate rock. There are indications that, under some conditions, sulphur may exert a stimulating effect on the growth of potatoes, sweet potatoes, and probably also other crops.

Manurial Properties of Lead Nitrate.—R. A. Berry ("Journal of Agricultural Science," I, 1924, p. 58) finds that as a source of nitrogen for fertilising purposes lead nitrate is equal to sodium nitrate when applied in quantities equivalent to those employed in agricultural practice. Its effect on the plant was to produce a slightly broader leaf blade and a deeper shade of green compared with the effect produced by nitrate of sodium. No difference in root development was observed. Used in the amounts referred to, no trace of lead could be found in the plant, neither could any lead be detected in a solution made by extracting the treated soil with water. Toxic and stimulating limits of lead chloride and lead nitrate were determined in water and in soil cultures. Except in solutions of fairly high concentration soil adsorbs the lead and destroys the toxicity of soluble lead salts. There is evidence to show that the addition of lead salts increases the rate of nitrification in the soil.

Solanine in Potatoes.—A. Bömer and H. Mattis had occasion to analyse six samples of potatoes which had caused vomiting and possessed an unpleasant taste. ("Zeitschrift für die Untersuchung der Nahrungs- und Genussmittel," 1923, p. 288.) They were analysed for solanine by Schmiedeberg and Meyer's, by von Morgenstern's method, and by a variation of the latter method in which the extracted juice was made alkaline with ammonia, evaporated to dryness with 10 grams of kieselguhr, and extracted for 5 hours in a Soxhlet apparatus with alcohol (95 per cent.). The alcohol was distilled off, and the residue twice precipitated from warm dilute acetic acid solution with ammonia. The colourless product was weighed. The results obtained by this method were in some cases even higher than those given by Schmiedeberg and Meyer's method, in which the solanine isolated is reddish-brown and contaminated with magnesium and calcium compounds, and were nearly twice those given by von Morgenstern's method for the same samples. For the potatoes examined the values varied from 25.3 to 58.8 milligrams per 100 grams, whereas the values for normal potatoes are 2.0-7.5 milligrams per 100 grams.

ANALYTICAL CHEMISTRY

A Test for Glass Containers for Chemicals. proposed by H. S. Blackmore, V. Dimbleby, and W. E. S. Turner ("Journal of the Society of Glass Technology," 1923, 7, p. 122), consists of heating in this to 100° C. a solution of narcotine hydrochloride. Bottles not showing cloudiness within forty-five minutes are considered first-class, but those showing only faint cloudiness at the end of twenty minutes could be used where there is no great demand for durability.

Distinction Between Citric and Tartaric Acids.—H. Stevens ("Industrial and Engineering Chemistry," February 1924) gives the following simple test for distinguishing citric and tartaric acids, which is in current use in a large drug house : About 0.2 gram of the sample is placed on a small spatula and held in a flame until it ignites. Then the spatula is removed and the ignition observed. In the case of tartaric acid the burning mass draws up into a dry ball and burns with a blue flame, the ball shrinking in size until only a small residue of carbon is left on the spatula. The citric acid, when ignited, spreads out on the spatula, remaining in a liquid

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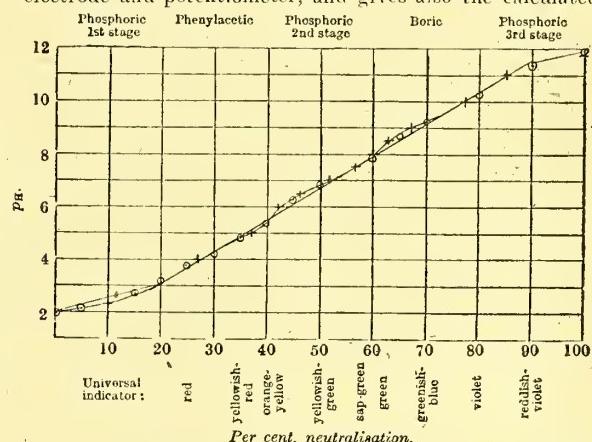
state while burning with a yellow flame. It burns in this manner until all is consumed excepting a brownish-black residue spread out on the spatula. The burning is accompanied with considerable spattering.

Stability of Hypo Solutions.—In the investigation of the stability of $N/0.01$ sodium thiosulphate solution under laboratory conditions by M. Kilpatrick, jun., and Mary L. Kilpatrick ("Journal of the American Chemical Society," II, 1923, 2132) it was found that freshly boiled redistilled water gave a solution that was more permanent than that obtained with laboratory distilled water through which carbon dioxide-free air had been bubbled. Carbon dioxide, oxygen or dilute sodium hydroxide had little effect on the stability of the solution. Decomposition, it is considered, is due to the action of bacteria.

Vanillin Test.—Dehydro-di-vanillin, first prepared by Tiemann by the action of ferric chloride on vanillin, was later obtained by R. Lerat by biochemical means. This compound is formed by the combination of two molecules of vanillin with loss of two atoms of hydrogen. H. Herissey and P. Delaunay ("Journal de Pharmacie et de Chimie," October 15, 1923) have utilised the facility with which its presence can be demonstrated for the recognition of traces of vanillin, and comparative tests showed that by this means it was possible to determine definitely the presence of 0.0005 gram of vanillin in aqueous solution. In the case of solutions of extracts, the liquid is submitted to repeated distillation, that is to say, when the liquid portion has been distilled off 10 c.c. of water is added to the residue, and this amount distilled over, repeating the process nine or ten times. To oxidise the vanillin present, the authors add to 10 c.c. of solution to be tested 4 drops of a solution of ferric chloride prepared by diluting 1 c.c. of official solution of ferric chloride with 9 c.c. of water. According to the amount of vanillin present, a more or less intense blue coloration is produced, which is still just apparent in 1 : 10,000 dilution. The test-tubes are placed in a boiling water bath for 5 minutes. On cooling, the blue coloration disappears, and in its place there is a more or less abundant precipitate of dehydro-di-vanillin, in the form of colourless microscopic needles.

Titration of Alkaloids.—A. Ionescu and E. Spirescu ("Buletinul Societății de Chimie din România," p. 74, 1923) have found that the method suggested by Votocek and Kasperek for the assay of acetone, based on the titration of mercuric ion with chlorine, may be used for the volumetric determination of alkaloids. The following procedure is adopted: 1 to 10 c.c. of the solution of the alkaloid, in an Erlenmeyer flask of 200 c.c. capacity, is treated with 5 c.c. of Mayer-Valzer's reagent (a solution of 10 gm. of potassium iodide and 15 gm. of mercuric iodide in 100 c.c. of water), and after five minutes the precipitate is filtered off, and repeatedly washed with 20 c.c. of water acidulated with 1 per cent. sulphuric acid, to remove the mercury. The precipitate on the filter is now transferred, by washing with 10 to 20 c.c. of water, into an Erlenmeyer flask, and 25 c.c. of a mixture of concentrated nitric acid 1 part and concentrated sulphuric acid 2 parts is added, and the mixture gently heated until complete solution is effected. A few drops of solution of potassium permanganate (10 per cent.) are added, sufficient to produce a permanent pink tint, whereupon the mixture is made up to 200 c.c. by the addition of water, and 12 drops of a solution of sodium nitroprusside (10 per cent.) are added. The mixture becomes cloudy, and sufficient $N/10$ solution of sodium chloride is added to cause the solution to become limpid. From the number of c.c. of $N/10$ sodium chloride solution required to produce a clear solution the amount of alkaloid present may be calculated on the following basis: 1 c.c. of $N/10$ sodium chloride is equivalent to = quinine 0.0066 gm., strychnine 0.014 gm., morphine 0.0083 gm., codeine 0.01 gm., cocaine 0.009 gm. The authors are continuing their investigations with a view to extending the application of this method.

A Universal Buffer Mixture for use with a universal indicator is described by E. B. R. Prideaux and A. T. Ward in the "Journal of the Chemical Society" (February 1924, p. 426). This, with a range of $P_H=2$ to $P_H=12$, consists of a mixture of boric, phosphoric, and phenylacetic acids. The mixture is made up so that the final solution is 0.02 Normal with respect to each hydrion and that the whole is decinormal. Figure I shows the results obtained by measurements with hydrogen electrode and potentiometer, and gives also the calculated



curve and colour changes with B.D.H. universal mixed indicator. The acid (or buffer) mixture is also supplied by the British Drug Houses in powder form. The use of indicators to check hydrogen ion value is extending greatly in industry.

BIOLOGICAL CHEMISTRY

Sparassol.—In pure cultures of *Sparassis ramosa* R. Falck ("Berichte der Deutschen Chemischen Gesellschaft," 1923, 2,555) observed the formation of crystals, to which E. Wedekind and K. Fleischer gave the name of sparassol. This substance, which was found to have the composition $C_{10}H_{12}O_4$, crystallises from methyl or ethyl alcohol in needles, melting at 67° – 68° . It contains two methoxy groups, and has been identified as methyl 2-methoxy-4-hydroxy-*o*-toluate. The authors are of the opinion that it is produced in the culture by a biochemical process from some other substance, since the amount of benzol compounds in the medium is not sufficient to account for its presence.

The Value of Organotherapy.—As a result of exhaustive experiments on animals, B. Zondek ("Klinische Wochenschrift," January 8, 1924) comes to the conclusion that the various manipulations entailed in the preparation of organo-therapeutic products, particularly those aiming at the removal of albumen, result in a definite loss in the content of specific endocrine substances. This verdict casts doubt on all the theories formed and conclusions drawn, based on clinical observations following the therapeutic administration of these substances. Zondek is of opinion that an effective endocrine therapy is only possible by the administration of desiccated preparations which have not undergone chemical transformations, or by the actual grafting of glands.

Isolation of Vitamin A.—Experiments have been made recently ("Ugeskrift for Laeger," December 1913, 942) by Dr. Olaf Blegvad with the subcutaneous injection of vitamin A. This substance has been extracted from cod-liver oil by Dr. E. Poulsen, professor of pharmacology in the University of Christiania. Animal experiments are held to have proved that this preparation contains about one hundred times as much vitamin A as native cod-liver oil. The oil is saponified with liquor potasse in an atmosphere of nitrogen, and is shaken up with ether, which absorbs the non-saponifiable fraction containing the

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vitamin and the still unsaponified oil. The saponification is repeated once or twice, and the shaking up with ether is repeated. The ether is now distilled; the non-volatile residue is dissolved in ethyl or methyl alcohol, and the inert cholesterol is separated by repeated concentration and standing at a temperature of 0°C . The substance which is now left contains the vitamin, which is dissolved in ten times its volume of olive oil and sterilised.

Value of Oysters.—Dr. E. S. Russell in a Report on the Seasonal Variation in the Chemical Composition of Oysters (Ministry of Agriculture and Fisheries, Fishery Investigations, 1923, No. 1) shows that the nutritive value of oysters is greatest in autumn and early winter, when the glycogen content is highest, the "fattening" in autumn being due to accumulation of this carbohydrate. From Government laboratory analyses it would appear that oysters normally accumulate traces of copper, zinc, tin, iron, arsenic, etc., in varying amounts without seeming hurtful to the oyster. Dr. J. H. Orton ("Journal of the Marine Biological Association," 1923, No. 1) suggests that the medicinal value of oysters may depend upon these traces of metals. Arsenic in minute amount is present in both sound and sick oysters, accumulating in weak specimens up to five parts per million on the fresh meat. Over two dozen sound oysters are required for the minimum B.P. dose of arsenic. No single cause could be found for the unusually heavy mortality among oysters in 1920.

Vitamin Requirements of Pigs.—J. B. Orr and A. Crichton ("Journal of Agricultural Science," 1, 1924, 115) record experiments carried out to determine (1) whether the requirement of the pig for vitamin A and vitamin C is such that the animal is likely to suffer from deficiency of them when fed on rations of grain and grain offal; (2) whether, on such rations, the addition of these vitamins leads to increased rates of growth. In the first experiment the experimental group of pigs was fed on a ration wholly, or almost wholly, devoid of vitamin C, the control group being given in addition a quantity of fresh lemon juice. After 111 days the average increase in weight per day in the control group was 0.421 kg., and in the experimental group 0.465 kg., all the animals appeared in perfect health, and no difference could be detected in the condition of the coats, the activity or the "thrifty" appearance of the two groups. A guinea-pig control experiment showed that the pig can be maintained in health for at least 111 days on a ration that allows the development of definite signs of scurvy in the guinea-pig within twenty days.

Effect of Age on Vitamin B.—G. M. Findlay ("Biochemical Journal," 1923, 6, 887) has carried out some preliminary experiments to determine to what extent the vitamin B content of natural foodstuffs is affected by the passage of time. Four species of lentils were examined. All the seeds, which were at least thirty-eight years old, had been stored in the Department of Agriculture in Edinburgh; they had all lost their power of germination. Rats were fed on various quantities added to a vitamin B deficient dietary, and the amounts necessary to promote growth were estimated. Unfortunately, no control experiments were performed with fresh seeds. In the absence of these controls the author has taken the figures of Ghose, who has recently investigated the vitamin B content of fresh lentils. This worker found that 1 gram of the same species of lentils as that used in this experiment was sufficient to promote adequate growth in rats. In the present series of experiments performed in circumstances as closely comparable as possible, this quantity was found insufficient, but 3 grams proved to be adequate. A similar result was obtained with old peas, also stored for thirty-eight years. It is concluded, therefore, that the vitamin B content of seeds may diminish somewhat with lapse of time, but that this diminution is not great. Further, seeds which have lost the power of germination have not necessarily lost all their vitamin B content.

New Test for Typhoid.—Dr. E. Moretti ("Lancet," I, 1924, 245) has devised the following modification of Petzeltakis's iodine reaction for the diagnosis of typhoid fever: 25 c.c. of urine are saturated with 20 gm. of crystallised ammonium sulphate. After about fifteen minutes the urine is filtered and diluted to about a third if it is too thick. To 10 c.c. of the filtrate one-fifth of its volume of a 10 per cent. solution of sodium hydrate is added, and then a drop of a 5 per cent. tincture of iodine. The solution is then shaken, and if the reaction is positive a persistent golden-yellow colour is produced. Out of 100 cases tried this test was positive in ninety-five. In two cases of paratyphoid A the reaction was negative, while it was positive in two out of three cases of paratyphoid B. In the great majority of all the typhoid cases the reaction was positive in the first week, and very frequently during the first few days of the disease. The intensity of the reaction increased until the disease reached its height, and then gradually decreased as the symptoms subsided, the reaction becoming negative before the temperature reached normal. The reaction was also invariably positive in pulmonary tuberculosis with cavity formation, very frequently (80 per cent.) positive in cases in the second stage, and occasionally (20 per cent.) positive in the first stage. It was often positive during the height of pneumonia and measles, and always negative in malaria and acute rheumatism. The iodine reaction is thus positive in the same diseases as the diazo-reaction, and like it is an expression of an increased elimination of urochromogen. It is of greater diagnostic value than the diazo-reaction owing to its earlier appearance, greater constancy and longer duration. In Dr. Moretti's cases the diazo-reaction was positive in only 78 per cent., and, as a rule, did not become so until the first half of the second week.

Vitamin A and Cod-liver Oil.—Professor E. Pousson, of the pharmacological laboratory of the University of Christiania, is well known for his exhaustive investigations on cod-liver oil. In a review on the importance of cod-liver oil as a medium for administering vitamin A in the treatment of various morbid conditions, contributed to the "Presse Médicale" (February 16, 1924), he mentions that cod-liver oil can be heated to a temperature of 100° without loss of activity, but if air is passed through the oil during this process it becomes inactive. From this observation Pousson draws the conclusion that the vitamin present is not an enzyme, and that it is readily oxidised. On saponification cod-liver oil yields three fractions: glycerin, fatty acids, and a small residue of unsaponifiable substances. If the oil is saponified in the usual way all three fractions are inactive. On the other hand, if saponification is carried out in an alcoholic solution, taking care to exclude the access of air, the vitamin is not affected and is found to be present in the unsaponifiable fraction, which constitutes about 0.5 per cent. of the products of saponification. His experiments proved that the fatty acids, to which the action of cod-liver was formerly attributed, were entirely deficient in vitaminic activity. On repeating the process of saponification in an atmosphere of hydrogen or nitrogen, he succeeded in obtaining a substance, which administered in daily doses of $\frac{1}{10}$ milligram causes a visible increase in growth, while with doses of $\frac{1}{10}$ of a milligram the promotion of growth is very pronounced. However, Pousson does not believe that this substance represents the vitamin *per se*, since the unsaponifiable bodies consist of a very complex mixture, in which cholesterol, or related alcohols, predominate. Nevertheless, he has succeeded in eliminating to a very great extent these inactive compounds, as is apparent from the results mentioned above, and further experiments are being undertaken to isolate the vitamin itself in as pure a form as possible. In the concluding portion of his communication Pousson deprecates the administration of cod-liver oil in the form of an emulsion, since the oil, being present in a fine state of dispersion, offers a greater surface and is consequently more liable to undergo

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alteration, particularly if in its preparation it is intimately mixed with air. He states that the experiments conducted with emulsions have up to the present yielded varying, and in most cases unsatisfactory, results.

INDUSTRIAL CHEMISTRY

A New Detergent and Bleaching Compound.—P. Krais ("Leipziger Monatsschrift für Textil-Industrie," No. 10, 1923) states that *p*-toluol-sulpho-chlor-amido-sodium possesses properties resembling those of bleaching powder and the hypochlorites, without their destructive effects on tissues. It is equal to the latter in bleaching power, and as a detergent for household and laundry uses it presents the advantage that even on boiling it does not attack linen and vegetable tissues. It is the active ingredient of a new washing powder placed on the market under the name of "Zauberin."

Dehydration of Alcohol with Glycerin.—Professor E. Knecht and E. F. Muller suggest the use of glycerin as a means of dehydrating alcohol ("Chemistry and Industry," February 8, p. 143). Alcohol (92 per cent.) mixed at random with glycerin gave pure alcohol on distilling from a water bath. Quantitative tests show that 5.5 per cent of alcohol was retained by a mixture by weight of four parts of absolute alcohol and one part of glycerin, but on heating to 180° C. nearly all this loss could be recovered. The method is of practical value in the laboratory, as it gives a very satisfactory product with very little trouble.

Recovery of Silver Residues.—J. B. Firth and J. Higson ("Journal of the Society of Chemical Industry," II, 1923, 427T) have investigated the action of an aqueous solution of sodium hyposulphite on (a) solid silver chloride, (b) silver chloride dissolved in sodium thiosulphate solution, (c) silver chloride dissolved in ammonia solution, also to obtain a simple method for the recovery of silver from silver chloride residues, and if possible a quantitative reduction to metallic silver direct. The following methods are suggested for the recovery of silver from silver chloride residues. The product of the action of sodium hyposulphite solution on a solution of chloride in sodium thiosulphate is entirely sulphide, 6 gm. of original silver chloride being precipitated as sulphide by 6 gm. of hyposulphite. If silver chloride is dissolved in excess of ammonia solution, the silver compound is quantitatively reduced to metallic silver. Silver was also quantitatively precipitated from an ammoniacal solution of silver nitrate.

The Synthesis of New Ionones as a result of condensation of citral with various ketones is the subject of studies by H. Hibbert and Laura T. Cannon ("Journal of the American Chemical Society," January 1924, p. 119). The difference between the two α and β isomeric ionones is attributable to variation in position of the double bond in the ring compound. Both substances possess the fragrant odour of violets in dilute solution. The replacement of a methyl group in ionone by propyl results in a compound with violet odour, but substitution of phenyl for methyl gives a product with little or no smell. The paper contains details of the best technique of purifying commercial citral and condensation of purified products with suitable ketones into pseudo-ionones. Sodium ethylate is the most satisfactory condensing agent, while metallic sodium is also very efficient. A list of patent literature on the subject is given, though the information therein was not sufficient. Phosphoric acid (85 per cent.) is one of the best catalytic agents for the conversion of pseudo-ionones into ionones. The condensations performed were between citral and the following ketones : Dimethyl ketones, methyl-propyl ketone, acetophenone, diethyl ketone, and dipropyl ketone. Ionone and ethyl ionone from the first two ketones possessed the violet odour, but the phenyl compound from acetophenone merely suggested this fragrance. The last two ketones condensed with great difficulty or not at all.

Toxicity of Hydrogen Sulphide.—There is considerable uncertainty as to the changes which occur in the body and result in poisoning from hydrogen sulphide ("Lancet" II, 1924, 349). The gas, if concentrated, resembles carbon monoxide in the rapidity with which it may act; the subject appears to drop almost instantaneously. When less concentrated the symptoms of poisoning are proportionately slower in developing and the picture is nearer to that of poisoning by arsenicised hydrogen. The smell of the gas which gives warning of its presence may explain why more cases do not occur; but a close observer, who once was suddenly overcome and dropped into an adjoining canal, whence he was fortunately recovered to tell his story, declared that when in sufficient concentration to asphyxiate the gas is odourless and is only to be detected by a sweet taste. Possibly the acute cases belong to the anoxæmia series to which Haldane has paid special attention; certainly Haggard has recently suggested that inhaled hydrogen sulphide passes into solution in the blood, where it is rapidly oxidised, the oxygen being obtained from the haemoglobin. At the same time the products of oxidation combine with the sodium in the plasma, whence may follow the later or more chronic effects of poisoning, such as mental and gastric disturbances and hepatogenic icterus. Hydrogen sulphide is held to be one of the most toxic of gases, comparable to hydrogen cyanide in the rapidity of its action and the concentration from which death will result. Even in concentrations of 0.005, such as may occur in industries, the gas is toxic.

Corrosion of Metals by Electrolysis.—Crabtree, Hartt and Matthews ("Industrial and Engineering Chemistry," I, 1924, p. 13) have experimented with various metals used in photographic practice in the following solutions: (a) water; (b) developers; (c) fixing baths. They find that the resistance of a metal or alloy towards a photographic solution is impaired if it is in electrical contact with a second metal which is more noble in the photographic electromotive series. Metals plated with silver, whether by deposition from an exhausted fixing-bath or by electroplating, are more resistant to developing solutions according to the homogeneity of the silver coating, but the resistance towards fixing solutions is only slightly greater than that of the unplated metals. The presence of copper or an alloy containing copper in an electric connection with a more electropositive metal in a developer materially shortens the life of the developer. The possibility of using a tin alloy or a metallic couple which will gradually discharge tin into the developer is suggested as a means of retarding the aerial oxidation of a developing solution. The relative order of suitability of the metals and alloys tested for use with developing and fixing solutions is as follows, the least satisfactory metal being placed first in each list : *Developing solutions*.—Tin, solder, copper, brass, lead, type metal, nickel, monel, silver; *Acid fixing solutions*.—Brass, silver-plated brass, lead, silver-plated lead, type metal, monel, silver-plated monel, nickel, solder. This also constitutes a photographic electromotive series, i.e., if a couple is constructed with two of the metals or alloys, the one occurring later in the list is usually the more electropositive. The increase in the rate of corrosion of the metals or alloys when coupled with a more electropositive metal is roughly proportional to the distance of separation between the metals in the series.

Determination of Cresol.—In view of the increasing use of cresol preparations as disinfectants, the German Board of Health has elaborated methods for the determination of free alkali, cresol, soap and fatty acid content of these preparations. For the exact determination of the cresol content the following method is prescribed :—20 c.c. of the preparation is diluted with 60 c.c. of water. If soap is present dimethyl-amino-azobenzol solution is added, and the mixture acidified with sulphuric acid until it assumes a red coloration. In preparations which do not contain soap the free acid is

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approximately neutralised by the addition of dilute sulphuric acid, using dimethyl-amino-azo-benzol solution as indicator. The mixture is then subjected to steam distillation. The first portion which goes over has a milky cloudiness; on the appearance of a limpid distillate cooling is suspended and distillation continued until steam proceeds from the condenser. Cooling is then re-applied and distillation continued for five minutes. 20 grams of sodium chloride are added for each portion of 100 c.c. of distillate. Thereupon 100 c.c. of petroleum ether (boiling point 30° to 50°) is added, and the whole is vigorously shaken. The petroleum ether is removed and the procedure is repeated twice, using each time 50 c.c. of petroleum ether. The petroleum ether portions are united and distilled to remove the solvent, and the residue, consisting of cresol, is dried for 40 minutes at 100°, and then weighed. The cresol obtained by this process must comply with the following requirements:—On shaking 5 c.c. with 25 c.c. of sodium hydroxide solution (15 per cent.), and 25 c.c. of water in a cylindrical measuring flask of 100 c.c. capacity, only traces should remain undissolved. On adding to this solution 10 c.c. of hydrochloric acid (sp. gr. 1.19) and 5 grams of sodium chloride, and shaking the mixture, after setting aside the layer of cresol that collects on the surface should measure at least 4.5 c.c.

PHARMACEUTICAL CHEMISTRY

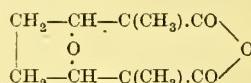
Dimethyl Ether as Anæsthetic.—Basing his paper on the assumption that a gas as such is better fitted than a liquid for use as an anæsthetic, Dr. Pinson ("Lancet," II, 1923, 1301) has described dimethyl ether. It is a gas at n.t.p. Its physical properties are unknown. The boiling point is 24° C., and at 100° C. it exerts a pressure of 97 lb. to the square inch. It can be safely compressed into cylinders at ordinary temperatures, and condenses into a thin mobile liquid with a slightly ethereal and pleasant odour.

Monotropa Hypopitys.—Bridel ("Comptes Rendus," p. 642, 1923) has succeeded in isolating a glucoside from *Monotropa Hypopitys*, Lin., to which the name of monotropitin has been given. Although it is hydrolysed by dilute sulphuric acid at 100° C., yielding methyl salicylate and what is probably a mixture of xylose and dextrose, it is not identical with gaultherin as has been supposed. Monotropitin forms colourless needles, possessing a bitter taste; it is non-reducing; $[\alpha]_D = -57.05^\circ$ (in aqueous solution), and, after drying *in vacuo* at 50°, it melts at 91.5°-92°.

Mercuric Purin Compounds.—A mercuric derivative of caffeine, known under the name of "Merkaffin," has been elaborated for use in veterinary practice. L. Rosenthaler and A. Abelmann ("Berichte der Deutschen Pharmazeutischen Gesellschaft," p. 186, 1923) state that it is obtained as a precipitate on mixing a solution of caffeine in nitric acid, with a solution of mercurous nitrate. The precipitate corresponds to the formula $C_8H_{10}N_4O_2HgNO_3$. Similar compounds with mercurous nitrate are given by theobromine and theophylline. A different type of compound, having the formula $(C_8H_{10}N_4O_2)_2Hg$, is precipitated on mixing a solution of theophylline in dilute acetic acid with a cold saturated aqueous solution of mercuric acetate.

Purification of Insulin.—P. J. Moloney and D. M. Findlay ("Journal of Biological Chemistry," p. 359, 1923) have found that solutions of Insulin may be purified, or dilute solutions concentrated, by the use of benzoic acid. For this purpose the solution of Insulin is treated with a solution of sodium benzoate, and the benzoic acid is precipitated by the addition of hydrochloric acid. The Insulin is recovered by suspending the precipitate in water and extracting the benzoic acid with ether. However, this method of recovery is not applicable if considerable amounts of impurities are present, and other methods, such as dissolving the precipitate in acetic acid and precipitating by means of ether must be used.

Constitution of Cantharidin.—S. Coffey ("Recueil des Travaux Chimiques des Pays-Bas," No. 9/10, 1923) describes the method adopted for the preparation and purification of 4:5 dimethyl phthalic acid, and its reduction to a mixture of hexahydrodimethyl phthalic acid and hexahydrodimethyl phthalide. Hydrogenation of dimethylphthalic acid obtained from purified sulphonated *p*-xylic acid proceeds with ease, and hexahydrodimethylphthalic acid, not identical with desoxycantharidic acid, is obtained. The formula



for cantharidin proposed by Gadamer is thus confirmed.

Constitution of Actinia Toxin.—D. Ackermann, F. Holtz, and H. Reinwein ("Chemisches Zentralblatt," No. 18, 1923) purified the aqueous extract obtained from *Actinia equina* by tannic acid after slightly acidifying with phosphoric acid. The precipitate produced with phosphotungstic acid was separated into three silver fractions and a lysine fraction, the last-named containing the toxin. This was purified by means of the picrate and obtained as chloride by evaporation with alcoholic hydrogen chloride, and recrystallised from hot absolute alcohol. The chloride, $\text{C}_4\text{H}_{12}\text{NCl}$, is very hygroscopic; is easily soluble in hot alcohol, sparingly in cold, is optically inactive, and cannot be further methylated by methyl sulphate. The toxin must therefore be tetramethylammonium hydroxide, $\text{N}(\text{CH}_3)_4\text{OH}$, and produces a typical curare-like physiological effect, while in large doses it quickly causes death by paralysis.

Acetonyl Barbituric Acid was prepared by A. W. Dox and B. Houston ("Journal of the American Chemical Society," January 1924, p. 252) on the assumption that the introduction of a fourth carbonyl group would intensify the action of the hypnotics of the veronal type which contain three CO groups. As a matter of fact the additional carbonyl group resulted in an acetonyl alkyl barbituric acid with less than one-third the activity of the corresponding dialkyl barbituric acid. The explanation of this result is to be sought in the physical properties rather than chemical constitution. Acetonyl barbituric acid melts at 238° to 240° C. with decomposition. It is a fairly strong acid liberating acetic acid from its salts. Its yellow colour is in striking contrast to ordinary alkyl barbituric acids, but further substitution on the 5-carbon atom invariably gave colourless products. It is difficultly soluble in cold water, and nearly insoluble in alcohol, but readily dissolves in dilute alkali.

Alkaloids of Coca Leaf.—The mixture of alkaloids present in coca leaves undergoes a change during growth; young leaves contain more cinnamyl-cocaine, while in older leaves the proportion of cocaine is higher. For the manufacturer the value of the leaves depends upon the amounts of benzoylecgonine, tropacocaine, ecgonine and ψ -tropine which are available. A. W. K. de Jong ("Recueil des Travaux Chimiques des Pays-Bas," No. 9/10, 1923) extracted the alkaloids of Java coca leaves with ammoniacal benzene at 55°, decomposed with boiling mineral acid, and the ecgonine produced was determined polarimetrically. The following rotatory powers are quoted: ecgonine monohydrate $[\alpha]_D = -45.6^\circ$, hydrochloride -47.1° , anhydrous benzoylecgonine -63.3° , anhydroecgonine -84.6° . Anhydroecgonine hydrochloride exhibits mutarotation. Ecgonine benzoate melts at 145°, and tropacocaine benzoate at 60°-61° C. The hydrochlorides of ecgonine and of anhydroecgonine both form pentamercurichlorides, while ψ -tropine hydrochloride forms a dimemercurichloride.

Gum Acacia in Tragacanth.—The adulteration of natural tragacanth with gum acacia is uncommon, since the presence of the latter would be easily detected. However, F. Utz ("Apotheker Zeitung" (Komotau), "Feb-

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February 21, 1924) draws attention to the fact that recently samples of powdered tragacanth have been found adulterated with gum acacia. To determine the presence of the latter, Utz makes use of the fact that gums, in distinction to tragacanth, contain a certain amount of oxidising ferments, enzymes and oxydases, and he bases his method of recognising the presence of gum acacia on the property of these substances. The test which he advocates, in preference to the well-known pyramidon, *p*-phenylenediamine and benzidin reactions, is the phenolphthalein test as applied to the detection of blood. With this test, tragacanth with a content of 5 per cent. of gum acacia gave a distinct pink coloration after five minutes, and with 10 per cent. already within three minutes. Utz emphasises the necessity of using absolutely clean apparatus in carrying out this test, to exclude the presence of other bodies liable to give rise to the same or similar colour reactions.

Determination of Liquid Paraffin.—In recent years the use of liquid paraffin as a laxative is gaining in popularity, and numerous preparations have been placed on the market. However, the determination of paraffin in emulsion presents certain difficulties, which form the subject of a communication by J. Weichherz and Z. Klinger ("Chemiker-Zeitung," January 9, 1924). The authors found that extraction in a Soxhlet apparatus does not yield reliable results, and after several experiments they adopted the following procedure:—5 grams of the emulsion is mixed with 100 c. c. of potassium hydroxide solution (35 per cent.), and the mixture is allowed to boil gently for 30 minutes. A faintly brownish coloured solution results, the liquid paraffin collecting on the surface. The solution is cooled and the liquid paraffin extracted by shaking with 50 c.c. of petroleum ether; after standing from 1 to 2 minutes an aqueous layer separates out. 25 c.c. of the petroleum ether are evaporated in a tared flask, dried at 105° and weighed. On multiplying the weight of the residue by 40 the percentage of liquid paraffin in the emulsion is obtained. The method yields sufficiently accurate results, the average error amounting to 1.1 per cent. The authors give the results of their analyses of several proprietary paraffin emulsions, including some preparations of British origin, and a dry preparation in which variations in the paraffin content were particularly marked.

Sarsaparilla Saponins.—H. P. Kaufmann and C. Fuchs ("Berichte der Deutschen Chemischen Gesellschaft," 1923, 2,527) extracted sarsaparilla root successively with chloroform, light petroleum, benzene, ether, anhydrous alcohol, and aqueous alcohol. The saponins were isolated as a form soluble in absolute alcohol (saponin *A*) and an insoluble form (saponin *B*). The presence of considerable amounts of dextrose in the sarsaparilla root, considered in conjunction with the ready hydrolysis of the saponins, justifies the conclusion that the primary, crystalline glucosides are partially changed by fermentative processes to amorphous, secondary glucosides. The composition of both saponins, after purification, was found to vary somewhat in different preparations; it appears, therefore, that a loosely-combined saccharide component is removed during the protracted extractions. The saponins were hydrolysed by dilute sulphuric acid (3–5 per cent.) whereby dextrose, pentoses, methylpentoses and, possibly, galacturonic acid were formed. The presence of galactose, arabinose, or rhamnose could not be established. The sapogenin was purified by solution in alcohol and precipitation with sodium ethoxide, whereby ultimately sarsapogenin, $C_{22}H_{32}O_3 \cdot H_2O$, in colourless needles, m.p. 183°, $[\alpha]^{15}_D = -58.68^\circ$ in absolute methyl alcohol, was isolated.

Natural and Synthetic Adrenalin.—The fourth edition of the Italian pharmacopœia describes adrenalin as a substance present in the suprarenal glands, which is also prepared synthetically. L. Faccaro ("Bollettino Chimico-

Farmaceutico," January 15, 1924) draws attention to the fact that the Italian pharmacopœia is in error in assuming that there is no difference between the chemical characteristics and physiological properties of the two forms. In support of his statement he adduces the conclusions reached by Carnot, who found that the natural, lœvogyrate product is approximately fifteen times more active than the racemic compound. He observed the following modifications in the arterial blood pressure, expressed in millimetres of mercury, following the injection of 0.01 gram of substance per kilogram weight of animal:—

Natural lœvogyrate adrenalin	... 109 mm.
Optically inactive synthetic adrenalin	... 65 mm.
Dextrogyrate synthetic adrenalin	... 11 mm.

He also quotes Fourneau ("Préparation des Médicaments Organiques," 1921), who comes to the same conclusion—viz.: "Only one half of the molecule of racemic adrenalin prepared synthetically contains the levogyrate form, and its activity is approximately one half that of the natural compound obtained from the suprarenal gland." In view of this marked dissimilarity in their properties, Faccaro is of opinion that only natural adrenalin should be regarded as the official preparation, as is the case in the French Codex.

The Auto Oxidation of Chloroform was the subject of research by A. M. Clover in the laboratories of Parke, Davis & Co. ("Journal of the American Chemical Society," December 1923, p. 3,133). This worker finds that the maximum rate of oxidation occurs in a bottle filled one-third, left standing in diffused light, maximum development of oxidising substance (usually close to 0.2 Normal) being obtained in three to four weeks, when the solution frequently becomes hazy and green. Soon afterwards nearly all of the oxidising substance disappears. The rate of oxidation in amber bottles is nearly one-half of that in flint glass. Light is undoubtedly a factor in both the formation and decomposition of the oxidising substance, which is

apparently dichloro-carbon-peroxide $(Cl_2 = C \begin{array}{l} / \\ \backslash \\ O \\ O \end{array})$.

Preservatives, such as alcohol (0.5 per cent. to 1 per cent.), play the rôle of anticalyst. Phenol, benzyl alcohol, petroleum ether, purified liquid paraffin, and methyl alcohol were all very effective in 1 per cent. strength. The petroleum oils proved even more effective than alcohol, 1 in 1,000 of the former stopping development of even a trace of peroxide, while this was noticeable at the end of six weeks with the same proportion of alcohol as preservative. Benzoic acid, ether, acetone, and benzene also had a decided anticalytic action, but not so marked as the foregoing substances. Acetic acid and carbon tetrachloride are almost without preservative action.

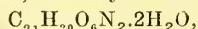
Synthesis of Cocaine.—The results of further researches on the synthesis of cocaine have been published by R. Willstätter, O. Wolfes, and H. Mäder ("Liebigs Annalen," 1923, 119), which gain additional interest by the fact that patents have been recently taken out, in Germany and in Great Britain, for the manufacture of synthetic cocaine. Methyl and ethyl tropinone carboxylates formed the starting-point of the authors' investigations. The methyl compound yields a hydrate, $C_{10}H_{14}O_2N \cdot 2.5H_2O$, a hydrochloride, and a benzoyl derivative which was found to possess only a very slight anaesthetic effect. The ethyl ester forms a dihydrate, a picrate, a methiodide and a hydrochloride. The methyl ester was obtained from succindialdehyde, methylamine, and potassium hydroxide. The reduction of methyl tropinonecarboxylate gives: ψ -ecgonine methyl ester, r -ecgonine methyl ester, and r - ψ -ecgonine, which forms a hydrate. r - ψ -Cocaine could not be resolved. r - ψ -Ecgonine methyl ester, however, was easily resolved using *d*- α -bromocamphor- ρ and *d*- α -bromocamphor- π -sulphonio acids. Various configurational changes occur during the formation of the methiodides of the various

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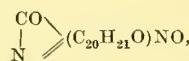
ecgonine methyl esters. *r*-Cocaine was resolved through the hydrogen-*d*- (or *l*-) tartrates, the *d*- and *l*-cocaines being identical with the natural substances. The ψ -compounds mentioned are better anaesthetics than their isomerides. *dl*- ψ -Cocaine is more powerful than *l*- ψ -cocaine or *dl*-cocaine, while, in both series, the *d* form is less toxic than the *l* form. It may be mentioned that the patents referred to above deal with the preparation of the last-named forms.

Atropine Phosphates.—L. Debucquet ("Journal de Pharmacie et de Chimie," January 1, 1924) describes the preparation of two phosphoric acid salts of atropine. The monobasic phosphate was obtained by dissolving 5.314 grams of pure atropine in 100 c.c. of alcohol (96 per cent.) and adding a solution of 1.802 grams of phosphoric acid (89.1 per cent.) in 25 c.c. of alcohol of the above concentration. The mixture was heated on the water bath, under a reflux condenser, at a temperature of 90° to 95° for thirty minutes, and after cooling was set aside for crystallisation. After four days approximately 6.6 grams of a crystalline mass was obtained. On analysis the crystals were found to correspond to the formula, $C_{17}H_{23}NO_3PO_4H_2O$; molecular weight 387, corresponding to a content of 74.677 per cent. of atropine and 25.323 per cent. of phosphoric acid. The compound is soluble in about 1:5 of water, yielding a solution which is acid to litmus; it is only slightly soluble in cold alcohol, and practically insoluble in ether and in chloroform. Melting-point 196°. To prepare the dibasic phosphate the same procedure was adopted, using 5.3647 grams of atropine and 0.9435 gram of phosphoric acid and heating the mixture for one hour. Approximately 2.6 grams of shiny white crystals were obtained. However, on analysis their composition was found to be practically identical with that of the monobasic phosphate. Attempts were made to prepare the dibasic salt by using absolute alcohol and ether as the solvent, and also by carrying out the reaction with an excess of the base. These methods failed to yield the pure dibasic compound, the resulting products consisting of a mixture of monobasic phosphate and atropine.

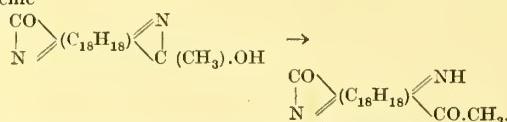
Strychnine and Isostrychnine.—In a previous communication E. Oliveri-Mandala and G. Comella had described their observations on the action of potassium permanganate on strychnine, whereby an acid,



was obtained, and another acid, which forms the subject of a note in the "Gazzetta Chimica Italiana," No. 9, 1923, as well as the results of some experiments on isostrychnine. Strychnine is not affected by the Grignard reagent, whereas isostrychnine reacts with magnesium ethyl bromide with liberation of 1 molecule of ethane per molecule of the base. That isostrychnine contains a nitrogen atom with a function different from that of the nitrogen in strychnine is shown by the fact that strychnine reacts with hydrogen peroxide yielding the amino-oxide,



whereas the iso-base remains unaltered. These results are in accord with the view that the conversion of strychnine into isostrychnine may be represented by the scheme



They conclude their observations by recording that while strychnine is a weak base, isostrychnine has pronounced basic properties; the former does not reduce metallic salts, an action which isostrychnine possesses in a marked degree.

The Theory of Emulsification is the topic discussed by P. Finkle, H. D. Draper and J. H. Hildebrand in the "Journal of the American Chemical Society" for December 1923 (p. 2,780). These workers infer that the relative sizes of the metallic atoms in various soaps (as judged by the atomic volumes of the metals) can be used to test the orientation hypothesis of Langmuir, and the explanation

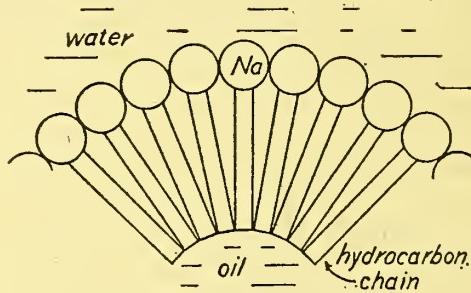


FIG. 1

by Harkins of the reversal of type of emulsions. Thus Fig. 1 illustrates in highly idealised form the closest packing of an hydrocarbon chain in which the polar group (Na) in the water occupies more space than the hydrocarbon chain of the organic acid radicle. Fig. 2 corresponds to a zinc soap with the outerface convex towards the "oil" side (emulsion of water in oil), while an aluminium soap would give still more curvature and

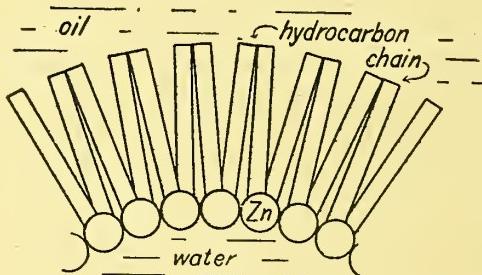


FIG. 2

stability of this type of emulsion. Experimental data are given, showing that the transition from the most stable oil-enclosed to the most stable water-enclosed emulsion for stearates and oleates follows the order: Cæsium, potassium, sodium, calcium, silver, magnesium, zinc, aluminium, iron, which is in accord with the valencies and atomic diameters of the metal and as interpreted on the orientation theory.

Preparation of Insulin.—The mode of making Insulin in the laboratories of the University of Toronto are described by C. H. Best and D. A. Scott in the "Journal of Biological Chemistry" (1923, 57, p. 509). For cold extraction of the minced glands alcohol of 95 per cent. is used which is denatured by 1 per cent. of methyl alcohol and contains 1.3 per cent. of acetic acid. After gentle mixing for three hours the solids are separated by means of a centrifuge and again subjected to extraction for three hours, adding 60 per cent. alcohol equal in amount to the liquor withdrawn in centrifuging. The combined extractions are neutralised with caustic soda solution, using litmus as indicator, and cooled to 0° C. After filtration the solution is evaporated *in vacuo* until volume is one-twentieth, the temperature being kept below 30° C. Next the temperature is raised rapidly to 55° C., fat skimmed off, and the product extracted with ether. To the residue denatured alcohol is added until 80 per cent. strength is attained. The mixture is filtered and added to the protein precipitate from the liquid

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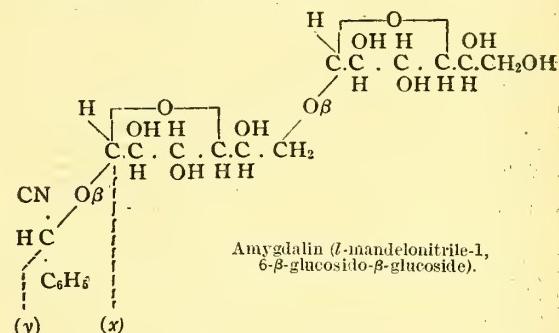
portion of the concentrate which has been dissolved in sufficient 95 per cent. alcohol to give an alcoholic strength of 75 to 80 per cent. (The protein precipitate is obtained by adding 37 grams of ammonium sulphate to each 100 c.c. of concentrated liquid.) An equal volume of ether is then added to the combined solutions in order to throw down the active principle in a crude form. This is dried *in vacuo*, redissolved in dilute ammonia of P_H 8, and then dilute hydrochloric acid added until the P_H number is 3.5. After filtration the solution containing the Insulin is purified by isoelectric precipitation, using the picrate method of Dudley's (see below) or by means of active charcoal. The pure product is dissolved in dilute hydrochloric acid (P_H 2.5), 0.1 per cent. tricresol added, and sterilised by filtration. The final product is adjusted so that each c.c. contains 10 to 20 Insulin units. From a kilogram of pancreas about 400 units of Insulin are obtained. Each unit is one-third of the amount required to reduce the blood sugar of a two-kilogram rabbit, which has not been fed for twenty-four hours, from the normal of 0.118 per cent. to 0.045 per cent. within five hours. To purify Insulin, H. W. Dudley ("Biochemical Journal," 1923, 17, p. 376) precipitated the picrate from an aqueous solution containing 1.5 per cent. of crude Insulin by adding half its volume of a saturated solution of picric acid in water. This dilution is necessary to prevent other substance being deposited as picrates, but the whole of the active principle is precipitated. To convert the picrate into hydrochloride, alcohol containing dry hydrochloric acid gas is added to the aqueous suspension and the hydrochloride precipitated by adding ether. The Insulin hydrochloride, which is about six times the strength of the crude product, consists of a white powder giving the Cuiret reaction and the Pauly test. It contains organic sulphur but is free from phosphorus. Insulin hydrochloride is relatively stable in acid solution but easily decomposes with alkali and, as is well known, is readily destroyed by trypsin or pepsin. According to statements in the public press, a method of aqueous extraction of Insulin has been elaborated in the biological laboratories of the Middlesex Hospital, and treatment is being given at one-third the cost of even the recently reduced price of Insulin. Presumably the new process will replace the present method of alcoholic extraction and lessen the cost of Insulin treatment.

PURE CHEMISTRY

Synthesis of Ricinine.—A method for the synthesis of ricinine from 4. chloroquinoline is described by E. Späth and G. Koller ("Berichte der Deutschen Chemischen Gesellschaft," 1923, 2,454) by first oxidising this body to 4-chloropyridine-2,3-dicarboxylic acid, and converting the acid into the corresponding anhydride, which, with ammonia, yields 4-chloro-2-carbamidopyridine-3-carboxylic acid. The latter is transformed by bromine and potassium hydroxide into 4-chloro-2-aminopyridine-3-carboxylic acid, and then into 4-chloro-2-hydroxypyridine-3-carboxylic acid, which is converted by the successive action of phosphoryl chloride and phosphorus pentachloride and of ammonia, into 2,4-dichloro-pyridine-3-carboxamide, and further by phosphoryl chloride into 2,4-dichloro-3-cyanopyridine. This compound is finally converted by sodium methoxide dissolved in boiling methyl alcohol into 3-cyano-2,4-dimethoxypyridine.

The Identity of Gentibiose with Amygdalin Bioside is established in Part IX of the Constitution of the Disaccharides by W. N. Haworth and B. Wylam ("Transactions of the Chemical Society," December 1923, p. 3120). Gentibiose on methylation yields heptamethylmethyl gentibioside which on cleavage with dilute mineral acids leads to the isolation of two methylated glucoses (2:3:5:6 tetramethyl glucose and 2:3:5 trimethyl glucose) previously obtained as cleavage products of amygdalin bioside. Amygdalin must therefore be represented as mandelonitrile- β -gentibioside or mandelonitrile

β -glucose-6- β -glucoside, on the synthesis of which the authors are engaged. C. S. Hudson, in the "Journal of the American Chemical Society" (February 1924, p. 480), points out that maltose and gentibiose are α and β glucosidic forms of 1, 6 glucosido-glucose and constitute the first α β pair of compound sugars to which a constitution has been definitely allocated. This worker gives the configuration of amygdalin as follows:—



The natural glucoside prulaurasin (of cherry-laurel leaves) is a mixture of the racemic *l* and *d* mandelonitrile glucosides. Pure *d* mandelonitrile glucoside is identical with the sambucinigrin of elder leaves. The iso-amygdalin of Dakin is a mixture of nearly equal quantities of amygdalin with the corresponding *d* mandelonitrile bioside (the neoamygdalin of Tutin).

DENTISTRY

Potassium Sulphate in Injections.—A decision of the Danish Board of Health permits dentists to administer injections containing anaesthetics in which potassium sulphate is present, provided that the solution contains 0.7 per cent. of sodium chloride and 0.4 per cent. of potassium sulphate.

Antiseptic Potency of Neutral Acriflavine.—H. C. Ferris ("Dental Cosmos," 1924, 169) has investigated the physiological effects upon the salivary secretions of neutral acriflavine. He finds that in general it checks the secretion of the trophic products both absolutely and relatively. The quantity of secretion is considerably diminished, and the ptyalin markedly so. While the organic matter is decreased almost a third in the twenty-minute period, the protein nitrogen is, on the other hand, increased. The non-protein nitrogen and the mucin nitrogen are decreased both relatively and absolutely by the use of neutral acriflavine. The experiments demonstrate that neutral acriflavine, used in normal mouths, acts as a physiological depressor. If this be true this valuable antiseptic used in pathology should be administered at periods as far removed from the time of feeding as possible. The author has used the neutral acriflavine in a 0.1 per cent. solution as a spray in the mouth of the patients wearing orthodontic appliances with excellent results, as its albumin penetrating property is extremely valuable in sterilising mucin plaques upon the teeth and appliances.

Pyorrhœa.—G. Y. Oliver ("British Dental Journal," I, 1924, p. 165), like Broderick (*C. & D.*, II, 1923, p. 897), considers pyorrhœa is due to endocrine instability. In such cases he recommends the removal of those teeth which, on an x-ray plate, show that their alveoli are absorbed. If there is little absorption the patient is given parathyroid gr. $\frac{1}{20}$, two tablets three times a day. This, he states, commonly after three or four weeks stops the deposit of tartar. At the same time the teeth should be well scaled, particular attention being paid to the clearing out of the pockets. The patient is, moreover, told to brush the teeth with a very small hard brush and should be instructed to brush up and down instead of to and fro. Powdered soap is useful for the brushing, and

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the following formula for a lotion to be applied by the tooth-brush is of great service:—

Chlorsan	...	...	...	...	...	iii.
Tr. myrrh.	...	...	...	...	...	iii.
Ad.	...	...	...	...	ad	iii.

Sig.: One tablespoonful to a wineglass of warm water.

As soon as the gums get harder cold water is used instead of hot. With a very fine hypodermic syringe (glass) the pockets should be well irrigated with iodargol (Viel). If this line of treatment is properly carried out one can promise the patient a complete cure in about six weeks. After parathyroid has been taken for six weeks the dose should be reduced to one tablet three times a day, as otherwise it will be found that too much of the calcium, carbonate and phosphate will probably have been converted into calcium ion proteins and bleeding may take place, as there is apt to result an organic calcium deficiency.

A Study of the Tooth-brush.—J. H. Kauffman ("Dental Cosmos," 1924, p. 300) considers that there is no such thing as a perfect tooth-brush. He specifies the desirable features in one for average use and gives a chart enumerating the structural details of thirty-seven varieties of tooth-brushes offered to the American public for average everyday use. Many of these, he thinks, would be excellent brushes with only slight modifications. The tooth-brush must be of the highest developed efficiency to compensate for the lack of systematic manipulation, and after elaborating the various ways in which the brush is generally used, a critical consideration of the structural details of a well-balanced hygienic instrument is given. The length should not exceed six inches for adult size and the width may be placed at a maximum of one-half inch, as applied to the back or solid portion of the brush. The actual bristle area, called the brushing surface, should not exceed one and a-half inch in length and seven-sixteenths in width, so designed that the most distal cluster is about one-eighth inch from the corresponding extremity of the back, and that end should be nicely rounded off. For young children the dimensions should be about one-third reduced and in detail proportional to adult measurements. For older children who have larger but not fully developed dentures the size should be about one-sixth reduced from the largest. Bone is preferred to celluloid for the handle, which should be at least three-eighths of an inch thick. An efficacious shape is one with slight convexity, and it should have a small aperture to allow for suspension and an indelible mark for identification. The degree of angulation, for average use, will be efficacious if fixed at ten degrees, and an inward dip of the bristle part is considered more adaptable to the facial surfaces. For tuft material, animal bristles are the most preferable. The longest bristle in the highest cluster should not exceed one-half inch in length, and be placed in the extreme distal tuft of the brushing surface. The shortest bristle should not exceed three-eighths of an inch in length, and should be situated at the extreme mesial tuft of the bristle area. In the arrangement of bristle tufts three rows make an ample number. These should not be more than one and a-half inch in length from mesial to distal and not more than one-half inch in combined width from side to side in a plane perpendicular to the longitudinal direction. The spacing between the clusters from side to side and mesio-distally should be equal in area, and there should be not more than ten clusters in a row. The tuft should be about one-eighth of an inch at its widest circumference which is near the free end. Their insertion should be closed or limited to the inner side of the bristle portion of the handle and not ventilated or exposed openly on the outer side, as this defeats the purpose of so-called ventilation by creating numerous dirt-catching holes. When newly obtained the brush should be immersed in a strong disinfectant solution or in boiling water for at least fifteen minutes. It is well to run the bristles under hot water

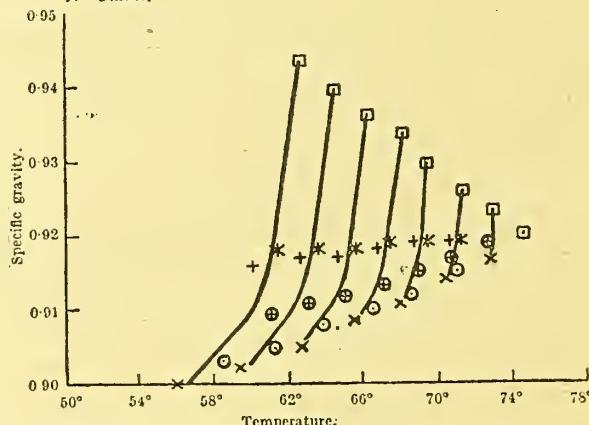
before and after use. When not in use the brush should be hung in a clean dry place or kept in a closed container which is dry and ventilated. It is surprising to note how many intelligent people will allow their tooth-brushes to be suspended in close proximity to the toilet bowl. The bristles of one brush should not touch those of another, and above all they should be handled as little as possible. As a precautionary measure it does no harm to scour the brush in boiling water once a week.

ESSENTIAL OILS

Germicidal Value of Eucalyptus Oils.—A. R. Penfold and R. Grant, in the "Journal of the Royal Society of New South Wales" (vol. lvii, p. 80), give the Rideal-Walker carabolic-acid coefficients of commercial eucalyptus oils and their aromatic constituents. The oil of *Eucalyptus radiata* (coeff. 10 to 12) had the highest germicidal value. Other values were: Australol, 22.5; geraniol, 21; citral, 19.5; and piperitol, 13. The crude oils or the active principle was used as a suspension of 1 per cent. strength in $\frac{1}{2}$ per cent. resin soap solution.

Estimation of Cineol.—G. Walker gives in the "Journal of the Society of Chemical Industry," December 21, 1923, the freezing points and specific gravities of mixtures of α -naphthol with eucalyptus oils containing varying amounts of cineol. The α -naphthol-cineol addition product is almost non-hygroscopic, and thus should give more accurate results than with α -cresol as used in Cocking's process, this being not quite satisfactory owing to its hygroscopic character. In the experiments 3.85 grams of oil with known cineol content (prepared

- *E. crenifolia* residues.
- * *E. dives*.
- + *E. Nova Anglica*.
- ⊕ *E. citriodora*.
- *E. radiata*.
- ✗ Pinene.



by adding pure cineol to specific cineol-free oil of eucalyptus was mixed with 3.6 grams of α -naphthol and freezing point of mixture determined. The above figure was obtained by plotting freezing points as abscissal and specific gravities as ordinates. By taking the latter into account more accurate determinations can be made, the percentage error in cineol content probably not exceeding 2 per cent.

Effect of Frost on Peppermint Oil.—E. Swirlowsky ("Berichte der Deutschen Pharmazeutischen Gesellschaft," 1923, 190) reports the results of analyses of samples of peppermint oil obtained from *Mentha piperita*, Huds., var. officin. Sale, forma rubescens, which is being cultivated as an experiment in various parts of Latvia, from plants which had suffered from frost, and also from unaffected plants. He found that whereas dried leaves normally yield about 1.1 to 1.2 per cent. of oil, after exposure

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to frost the yield amounted to only 0.75 to 0.87 per cent. A marked effect of frost is an increase in the content of total and of esterified menthol. Latvian peppermint oil was found to contain a high proportion of total menthol, 51.8 to 67.04 per cent., and it possesses a comparatively high rotatory index. Healthy leaves yielded on distillation 1.11 to 1.2 per cent. oil, those affected by frost about between 0.75 and 1.08 per cent.; specific rotation $[\alpha]_D^{20} = -26.7^\circ$ to -39.2° .

Oil of Ocimum Viride.—L. S. Glichitch ("Bulletin de la Société de Chimie," 1923, 1536) reports the results of his analyses of two samples of the essential oil obtained from *Ocimum viride*, Willd. The first sample was an oil distilled from plants grown in Grasse from Madagascar seeds by the firm of A. Chiris on an experimental scale. It was a golden-yellow oil having an odour of thymol, d^{15}_D 0.9104, $[\alpha]_D = +0^\circ 53'$, $n_D^{22} = 1.49620$. The phenols soluble in soda, mainly thymol, amounted to 38 per cent., and a further 30 per cent., distilling between 160° and 180° , appeared to consist of terpenes, and tests proved it to consist of a mixture of α - and γ -terpinene. The remainder appeared to contain terpineol. The author draws the conclusion that in this oil α - and γ -terpinene are both present, together with d -limonene and possibly dipentene. The second sample, obtained from New Caledonia, was of a dark ruby-red colour, the odour of thymol being less pronounced, d^{21}_D 0.9235, $[\alpha]_D^{22} = +1930'$, $n_D^{22} = 1.49450$. The phenolic portion amounted to 18 per cent. and consisted wholly of thymol, a remarkably low proportion in comparison with previously studied Sierra Leone oils, which were found to contain 32 and 52 per cent. of thymol, and also the sample distilled in Grasse with a content of 38 per cent.

Essential Oil of Manuka.—The shrub known as "manuka," *Leptospermum scoparium*, Forst., is the dominant plant on heathlands in New Zealand and covers thousands of acres of land. The oil glands in the leaves are apparent to the naked eye. Distillation on a commercial scale, according to R. Gardner ("Journal of the Society of Chemical Industry," February 22, 1924), would not be difficult if the oil should prove to be of sufficient value. Gardner undertook an investigation of the oil obtained from the leaves and branchlets, which were treated with superheated steam at about 120° - 150° , the average yield being 0.45 per cent. The oil is pale greenish-yellow in colour; it has $n_D = 1.50$; d^{15}_D 0.921; the approximate boiling-range at atmospheric pressure is 160° - 270° . The following substances were identified:—Phenolic constituent.—The phenolic substance (Fraction 0) gave a red colour with ferric chloride and a deep blue with copper sulphate. The quantity was too small for purification, but the major constituent is undoubtedly leptospermol. Terpene.—Fraction I consisted almost certainly of terpenes, the odour suggesting pinene. Cinnamic esters.—These are present principally in Fraction III, and to a less extent in Fractions II and IV. On warming with alcoholic potash, potassium cinnamate separates. The acid was obtained and identified by determination of equivalent, by oxidation to benzaldehyde, and by mixed-melting-point tests. It is presumably present as its ethyl or methyl ester, but as little saponification takes place even on long boiling with aqueous alkali this point was not decided. The quantity of acid obtained corresponded with the presence of 4.8 per cent. of ethyl cinnamate in the oil. Other esters.—The esters present, particularly in Fractions II and III, gave on saponification an alcohol having a fine rose-like odour, and acetic acid mixed with other acids, probably including butyric acid was recovered from the potassium salts. Attempts to separate the alcohol from the sesquiterpene with which it is mixed have not yet been successful. Sesquiterpene.—The greater part of the oil consists of sesquiterpene. A fairly pure specimen was obtained by allowing the oil (after saponification and separation of acids and phenols) to stand over sodium for several days, heating with sodium for an hour, separating the liquid as com-

pletely as possible from the sodium and from the semi-solid substances which had formed, and distilling *in vacuo*. This material gave C 87.8 per cent., H 11.7 per cent., molecular weight 203; $C_{15}H_{24}$ requires C 88.16 per cent., H 11.84 per cent.; molecular weight 204. This sesquiterpene gives the beautiful colour-reactions characteristic of aromadendrene, the characteristic sesquiterpene of the Eucalypts and also found in several of the Leptosperms. The sesquiterpene of the present oil on treatment in ethereal solution with hydrochloric-acid gas gives a definite liquid monohydrochloride, b.p. about 160° at 10 mm. (found Cl=14.4 per cent., $C_{15}H_{24}HCl$ requires 14.8 per cent.). As no such derivative appears to have been prepared from aromadendrene, it would seem either that the sesquiterpene here described is similar to, but not identical with, aromadendrene, or that this hydrochloride is the first derivative of aromadendrene to be prepared. Semi-solid, non-volatile material.—No definite substance was obtained from this (Fraction VI). Combustion gave C 73.9 per cent., H 10.5 per cent., and the average molecular weight is about 360.

Summary

The following is the approximate composition of the oil:—

	%
Phenols (leptospermol)	2.8
Terpenes	2.8
Esters of cinnamic acid, calculated as ethyl cinnamate	4.8
Other esters (acetic, etc., esters of alcohol, unidentified, of rose odour) calculated as $CH_3COOC_{16}H_{34}$	12.9
Semi-solid, non-volatile matter	7.7
Sesquiterpene (by difference)	69.0
	100.0

FIXED OILS AND FATS

Cod-Liver Oil Acids.—M. Tsujimoto and K. Kimura ("Kôgyô-Kwagaku Zasshi," No. 26, 1923) converted the unsaturated acids obtained from 1,000 grams of cod-liver oil (about 290 grams) into methyl esters, and 40 grams of a fraction boiling at 220° - 226° at 5 mm. pressure. Analyses of the ester and of the acid liberated from the ester gave $C_{22}H_{34}O_2Me$ and $C_{22}H_{34}O_2$, respectively, and the acid gave behenic acid on hydrogenation. The authors concluded that cod-liver oil contains a large amount of clupanodon acid, $C_{22}H_{34}O_2$. The fraction of the methyl esters boiling below 220° at 5 mm. probably contains a large amount of a highly unsaturated acid containing 18 or 20 carbon atoms.

Constituents of "Chufa Oil."—A chemical examination of the tubers of *Cyperus esculentus*, known commonly by the Spanish name of "chufa," is recorded by Dr. F. B. Power and V. K. Chesnut in the "Journal of Agricultural Research (U.S.A.)" for October 13, 1923 (p. 69). The American-grown tubers were found to contain essentially the same constituents as European "chufa," including about 30 per cent. of oil and 12 per cent. of starch. The oil has a specific gravity 0.9120 (20° to 25° C.), and refractive index 1.4680 at 20° C. It was examined by W. F. Baughman and G. S. Jamieson, of the U.S. Bureau of Chemistry, who give its composition as follows:—Glyceride of oleic acid, 73.5 per cent.; glyceride of palmitic acid, 11.8 per cent.; glyceride of linoleic acid, 5.9 per cent.; glyceride of stearic acid, 5.2 per cent.; glyceride of arachidic acid, 0.5 per cent.; glyceride of lignoceric acid, 0.3 per cent.; glycerol of myristic acid, trace. The unsaponifiable matter (0.6 per cent.) contained a phytosterol melting at 134° to 135° C.

Oncoba Seeds.—An examination of the seeds of the "Gorli" plant, *Oncoba echinata*, from Sierra Leone, carried out in 1908, showed that they contained 46 per cent. of a hard, white crystalline fat, which on further analysis was found to consist of 87.5 per cent. of chaulmoogric acid and 12.5 per cent. of unsaturated acids. In the "Bulletin of the Imperial Institute," p. 585, 1923,

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details are given of the results of an examination of the seeds of *Oncoba spinosa* from South Africa. The material consisted of spherical fruits about $1\frac{1}{2}$ in. in diameter, having a thin hard shell and containing seeds embedded in dark brown pulp. The seeds, which were in sound condition, were small, flat and oval, and varied in colour from brown to very dark reddish-brown. They contained 6.5 per cent. of moisture, and yielded on extraction with petroleum ether 35.2 per cent. of a brownish-yellow oil, equivalent to a yield of 37.6 per cent. from the moisture-free seeds. When spread on glass, the oil dried in from three to four days. The oil was submitted to chemical examination, and the results are shown in the following table in comparison with those obtained with *Oncoba echinata* oil.

	<i>O. spinosa</i> Oil.	<i>O. echinata</i> Oil.
Specific gravity ...	0.9303 at 15/15° C.	0.898 at 100/15° C.
Solidifying point of fatty acids ° C. ...	23.4	57.8
Acid value ...	12.1	4.5
Saponification value...	192.2	192.4
Iodine value per cent.	177.0	99.7
Refractive index at 40° C ...	1.474	—
Specific rotation of fatty acids [α]D ₂₅ ...	nil	+ 52.5°
Unsaponifiable matter per cent. ...	1.3	1.6
Volatile acids, soluble	0.5	nil
Volatile acids, insoluble ...	0.45	—
Chaulmoogric acid per cent. ...	nil	84.4

The results of the investigation show that the oil of *Oncoba spinosa* differs considerably in its constants from the oil of *Oncoba echinata*, and that unlike the latter it contains no chaulmoogric acid. The oil would therefore not have the medicinal properties of the oil of *Oncoba echinata* or of chaulmoogra oil.

MATERIA MEDICA

A New Amoebicide.—A. A. Goldsmith and E. I. Greene ("Illinois Medical Journal," December 1923) draw attention to *Castela nicholsoni*, Hook, a small thorny bush indigenous to South-West Texas and Northern Mexico, where it is known as "chaparro amargosa," which seems to have a specific action on *Endamoeba histolytica*. The authors recommend its use in cases of amoebic dysentery which are rebellious to the usual treatment with emetine or ipecacuanha. They administered six or eight ounces of an infusion by mouth, half an hour before each meal, in addition to two daily rectal injections of 500 to 2,000 c.c. of the infusion.

Galuteolin.—G. Barger and F. D. White ("Biochemical Journal," 1923, 836) have succeeded in isolating a glucoside from the seeds of *Galega officinalis*, corresponding to the formula $C_{21}H_{30}O_{14}3H_2O$, to which the name galuteolin is given. It contains no methoxyl groups. On hydrolysis it yields dextrose and an insoluble, yellow colouring matter, $C_{15}H_{16}O_6$, decomposing at 290°-300° identified as luteolin. When boiled with acetic anhydride containing a trace of sulphuric acid or pyridine, luteolin forms a tetra-acetyl compound, $C_{15}H_{16}O_6(C_2H_5O)_4$, long, colourless needles, m.p. 221°-223°. Luteolin also occurs as such in the seeds of *Galega officinalis*.

Caapi is defined by Dr. H. H. Rusby ("Journal of the American Pharmaceutical Association," February, 1924, p. 98) as the root and rhizome of *Banisteria Caapi* (malpighiaceae), a woody vine of the Amazon basin. It is used by Colombians along with some leaf (not identified yet) to make a decoction to "give courage and fortitude in facing danger and enduring suffering." The readiness to fight lasts for hours, and is followed by exhaustion and somnolence. A preliminary chemical examination by Harvey A. Seil and Earl B. Putt (*ibid.*, p. 99), shows presence of 1.8 per cent. of non-phenolic alkaloids and 0.03 per cent. of phenolic alkaloids, the

former giving a beautiful blue fluorescence very similar to that of quinine.

Adulteration of Savin.—A. J. Scholz ("Schweizerische Apotheker-Zeitung," No. 8, 1924), as a result of a comparative anatomic study of the leaves of various Coniferae, comes to the conclusion that the peculiar structure of the stomata, which has been assumed to be characteristic for savin, are to be found in the leaves of other Coniferae, and even of certain Gymnospermae, such as *Euphedium* and *Cycas*. The author examined a number of commercial specimens of savin tops imported from Great Britain, France and Spain, which were found to consist of the tops of branchlets derived from *Juniperus phoenicea*, whereas samples of the drug obtained in Switzerland and in Germany proved to be genuine tops of *Juniperus Sabina*.

Acacia Niopo.—*Piptadenia peregrina*, Benth, or *Acacia Niopo*, H.B.K., is a leguminous plant indigenous to the region of the upper Amazon, where it is known as "cunepa," "niopo de nupa," and "parica." L. Reutter ("Journal de Pharmacie de Belgique," January 6, 1924) states that the natives have for centuries used the powdered leaves as a snuff; some tribes, on the other hand, use the powdered seeds, or fruits, for the same purpose. The physiological effects of the powder vary according to the method of preparation, and its use enters into several tribal customs. It causes intense excitation, with entire loss of consciousness of danger; under its influence the natives are impelled to imitate the cries of animals and accomplish strange contortions. According to Hartwich, this effect is attributable to a saponin substance, which exerts an irritant action on the nasal mucosa, and Schombrück reports that the Paravilhanas make use of this powder in the treatment of affections of the ears and eyes. It is interesting to note that the powder is filled by the natives into hollow bamboo sticks, or into hollow bones of tapirs or of birds, and it is snuffed up by means of a special appliance introduced into the nostrils. The amounts used are measured by means of hollow crocodile teeth.

Primrose as an Expectorant and Diuretic.—The use of the primrose, which was included in several older pharmacopœias as an expectorant, has been displaced by the introduction of foreign drugs, such as senega and ipecacuanha. The difficulty of obtaining the latter induced F. Gaisböck ("Klinische Wochenschrift," March 18, 1924) to prescribe primrose in over twenty suitable cases in the Innsbruck Institute for Experimental Pathology. He observed that following its administration, expectoration was increased and the catarrhal process was distinctly benefited. In addition, he found that the drug exerted a very marked diuretic action. Gaisböck undertook a series of experiments to establish the action of primrose, which is due to its saponin content. He found that the best results were obtained when using a 2 or 3 per cent. decoction, to which a small amount of sodium carbonate is added; the addition of the latter insures the extraction of a considerably higher amount of saponin. It may also be used in the form of a tincture, prepared by extracting the drug by boiling it with alcohol under a reflux cooler. According to Wasicky, primrose root contains from 8 to 10 per cent. of saponin, whereas the leaves contain only 2 per cent. If for economic reasons the latter are used, for adults a 10 per cent., and for children a 2 per cent. decoction should be prescribed.

Aconite Adulteration.—P. Casparis ("Schweizerische Apotheker-Zeitung," Nos. 1 and 2, 1924) reports an interesting case of adulteration of aconite root. A consignment of 1,000 kilograms of this drug, purchased in Germany by a firm in Basle, was refused admission into the United States on the grounds that it did not consist of official roots of *Aconitum Napellus*. Professor H. H. Rusby, College of Pharmacy of the University of Columbia, expressed the opinion that the consignment consisted of a variety known as "Spanish aconite,"

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possibly derived from *Aconitum Cammarum* or *Aconitum variegatum*, or a mixture of both. Casparis had occasion to examine this drug in the pharmaceutical institute of the University of Basle, since the exporters were anxious to have its identity established. The roots were externally of a brown or greyish-brown colour; slender and conical in form with a smooth surface or longitudinally striated, bearing scanty scars of rootlets, the mother and daughter tubers being separate. Characteristic is the lateral insertion of the stem, which gives to the root the appearance of a bird's head, and distinguishes it from the roots of *Aconitum Napellus*. Besides, the latter are darker in colour and more furrowed. On microscopical examination the anatomic structure was found to closely resemble that of the official drug, with the exception that the vessels in the angles of the cambium were more numerous, so that the latter was more prominently marked, even to the naked eye. Comparisons with various specimens of aconite root and a study of the literature induced Casparis to assume that the drug forming the subject of his investigation was derived from *Aconitum Fischeri*, a Japanese variety known as Bushi tubers, of which some consignments were exported to Europe about 1880. Makoshi reports that these tubers are used by the Ainos to prepare an arrow poison. Casparis was able to obtain a supply of Japanese aconite tubers, from which Makoshi had succeeded in isolating an amorphous aconitine—Jesaconitine. However, on isolating the alkaloid from the adulteration, the author was surprised to find that it yielded a crystalline aconitine, melting at 197°—that is to say, possessing practically the same melting-point as crystalline aconitine obtained from *Aconitum Napellus*. Several attempts, including the use of micro-chemical reactions, to discover any characteristics which might distinguish the two alkaloids proved unsuccessful, and therefore the identity of the adulteration could not be definitely established, owing to the fact that whereas Casparis obtained crystalline aconitine from the roots, which he assumes to be derived from *Aconitum Fischeri* on account of the similarity in morphological and anatomical structure, according to the literature the latter yields an amorphous alkaloid. This interesting difference consequently awaits elucidation, and the question arises: How did this drug reach Europe?

MEDICINE

Treatment of Blackheads.—Blackheads, or comedones, are collections of sebaceous or oily matter retained in the openings of the sebaceous glands. They are generally associated with acne or pimples. A good plan of treatment ("Journal of the American Medical Association," December 29, 1923) is to wash the face thoroughly every night with soap and water and then apply a lotion consisting of precipitated sulphur, 8 gm.; camphor, 4 gm.; salicylic acid, 0.66 gm.; and lime water, sufficient to make 120 gm. The diet should be regulated, and pastry, rich and greasy foods avoided. Careful attention to the bowels is also important.

Treatment of Cancer.—Silicium, calcium and magnesium being regarded as defensive agents against cancer, A. Robin ("Journal de Médecine de Paris," December 29, 1923) prescribes the following therapeutic treatment to cancerous patients: On awakening, the patient takes a cachet containing 0.5 gram of calcium glycerophosphate. Before lunch and dinner, 1 gram of light magnesia is taken in a little water; during the course of each repast the patient takes a cachet containing: Sodium silicate, 0.25 gram; potassium silicate, 0.25 gram; magnesium silicate, 0.50 gram. This treatment is continued for several months, allowing an occasional interval of a week.

Dermatitis from Mah Jongg Set.—E. P. Zeisler ("Journal of the American Medical Association," February 9, 1924) describes a case of vesicular dermatitis of the right forearm, which developed into an intense dermatitis of the face and neck. Inquiry elicited the

fact that the patient had been playing mah jongg. An examination of the mah jongg set showed that the trays were lined with a sticky dark-brown lacquer, which adhered to the backs of the tiles. Suspecting that this might be the cause of the dermatitis, Zeisler scraped off some of the lacquer and applied it to the unbroken skin of the leg; within twenty-four hours there was a vesicular dermatitis at the site of the application. After discontinuing the game the patient made a rapid recovery.

Treatment of Carbon Monoxide Poisoning.—R. B. Sayers and W. P. Yant, in the U.S. Public Health Reports for September 7, 1923 (p. 2,053), give particulars of experiments in eliminating carbon monoxide from blood by treatment with oxygen either pure or mixed with other gases, as in air, or with carbon dioxide. The rate of elimination of carbon monoxide from blood depends upon the percentage of oxygen (pure oxygen causing removal four times as fast as normal air), and also upon the rate and depth of respiration. A mixture of oxygen containing 8 to 10 per cent. of carbon dioxide induces deep and rapid respiration, and rate of elimination being five to six times that of normal air. This is recommended for use under a physician's care, but where a medical practitioner is not available the patient should be caused to breathe oxygen in the purest form available for 20 to 45 minutes.

Rejuvenescence.—Dr. F. H. A. Marshall reviews in "Nature" (December 22, 1923) the various claims put forward for testicular rejuvenescence, including Berthold implanting experiments in 1849, and Brown-Sequards injections in 1889. Of grafting experiments, those of Varonoff, beginning in 1917, have attracted most attention, as he emphasises the importance of biological affinity, and the advantage of making the graft in the natural position. The histological results of "monkey gland" treatment are conflicting, and Varonoff's claims are contrary to the usual view of the testicular hormone being elaborated by the interseminiferous or interstitial cells. According to the French investigators, the rejuvenating effect of chimpanzee testicular substance is due to the epithelial cells. Dr. Marshall, though emphasising the fact that the work is yet in the experimental stage, states that the evidence in support of testicular graft exerting a definite physiological influence is far greater than many men of science have so far been disposed to admit.

Treatment of Tapeworm Infection.—A case of very intractable tapeworm (*saginata*) infection had existed for over a year, and had survived three vigorous treatments with freshly prepared emulsion of ethereal extract of male fern, in addition to one with pelletierine tannate, the whole worm on each occasion, with the exception of the head, having been evacuated *en bloc*. ("Lancet," I, 1923, 1131). Instead of the usual policy of wait-and-see, additional measures were at once instituted to inhibit the growth of further segments from the retained head. Accordingly, immediately after a fourth treatment with male fern, which, as before, removed all the worm with the exception of the head, 15 gr. of beta-naphthol in tabloid form were administered to the patient each morning, for ten consecutive mornings, on an empty stomach along with a cup of tea, no food being allowed until lunch time. The result was altogether satisfactory, no trace of the worm ever after being seen. This treatment has been tested in many cases, and in no instance has it been known to fail.

Santonin in Diabetic Gangrene.—Santonin has already been used, with uncertain results, in the treatment of glycosuria. As a result of observations extending over a prolonged period, Van Nypelser ("Bruxelles-Médical," August 30, 1923) states that it is of the highest value in the treatment of diabetic gangrene, in which its systematic administration displays a certain curative effect. He administers for an indefinite period daily 3 pills, each containing 0.05 gram of santonin. If the

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action is not sufficiently pronounced, the dose is progressively increased up to 0.3 gram *per diem*; this dose is administered for 2 to 4 weeks, and then gradually decreased until the initial dose is again reached. The effect of this treatment is apparent in the rapid improvement in the gangrenous area, santonin apparently promoting the growth of healthy tissue. This therapeutic treatment is assisted by suitable local applications and regulation of the patient's diet. In spite of the high doses administered and the prolonged duration of this treatment, no toxic symptoms were observed.

Calcium Lactate in Migraine.—A. Douglas Bigland reports ("British Medical Journal," II, 1923, 1133) that in a series of twenty cases of migraine sixteen patients stated that their attacks have been aborted by the calcium lactate treatment. Of the remaining four, two were apparently cured by general remedies, and consequently had no need to try calcium, and two experienced no relief. Emphasis is laid on the following method of administration: At the first sign of the approach of an attack, as evidenced by the ocular aura, 30 grains of calcium lactate must be taken immediately; as there must be no delay, the drug must be constantly carried by sufferers, and for this purpose the tablet form is essential. The tablets must be made by a reliable firm, and they must be fresh. There have been instances in which tablets carried in the pocket for some time gave no effect, while the use of a fresh solution, procured from a chemist near by, gave speedy relief. No claim is made that calcium lactate as given above cures migraine, merely that it aborts the attack and in many cases prevents the appearance of the headache and vomiting, and enables the sufferer to continue at work.

Percutaneous Insulin Treatment.—A. Wallgren ("Upsala Läkareföreningens Förhandlingar," January 15, 1924) has observed that insulin is readily absorbed through the intact skin, the effect being more pronounced in infants than in older children. Six children were treated with an insulin ointment containing 3 to 15 units. Following the inunction the sugar content of the blood decreased from 0.08 to 0.054, and from 0.094 to 0.049, in six hours. In a girl aged three years, suffering from severe diabetes, and who had been successfully treated with subcutaneous injections of insulin, he replaced the first daily injection of 2 units and applied an ointment containing 20 units an hour and a-half before breakfast. The second daily injection was given as usual. This treatment was continued for a week with highly satisfactory results. Wallgren states that the cutaneous method of application requires ten times more insulin than is the case when it is administered in the form of injections, but the effect seems to be more lasting, and in some of his patients he found that the sugar content of the blood was lower on the day following the inunction than on the day of its application.

Sodium Citrate in Anæmia.—Basing himself on the results of animal experiments, in which he found that mononuclear leucocytes are transformed into red corpuscles following the intravenous injection of sodium citrate, Normet ("Union Pharmaceutique," February 1924) was induced to apply this treatment to bring about the same transformation in patients suffering from anæmia. The method consisted in giving six injections at intervals of eight days of 40 to 60 c.c. of a 3 per cent. solution of sodium citrate, the dose being 0.02 gram per kilogram body weight. In cases which reacted favourably, an increase in the blood content of red corpuscles was observed. However, a definite result of the effects of this treatment are apparent only at the end of two or three weeks after administering the last injection. In the author's hands this method has yielded excellent results in severe cases of pernicious anæmia which resisted the usual forms of treatment. With a view to testing the possible advantages resulting from the administration of a combination of sodium citrate and iron, Normet undertook a series of experiments on dogs

and rabbits, injecting the following solution: Sodium citrate, 30 grams; potassium ferritartrate, 1 gram; distilled water, q.s. 1,000 grams. As a result of these injections the number of red corpuscles increased from 50 to as much as 80 per cent. within a period of fourteen days.

Paraphenylenediamine Dermatitis.—The successful treatment of two cases, one due to hair dye and the other to fur dye, has been described ("British Medical Journal," I, 1924, 191). The author states that the dermatitis produced by dyes derived from paraphenylenediamine is very severe and exceedingly painful and distressing to susceptible persons. If not properly and promptly treated in the early stage it may last for many weeks or months and spread widely over the body. In the case of dermatitis due to hair dye it was directed that the scalp should be thoroughly washed and douched with plenty of water, gently dried, and a solution of sodium hyposulphite (1 oz.) in water (4 oz.) ordered. The scalp was to be thoroughly sprayed with one part of this in two of warm water, the washing and the lotion to be repeated every four hours. The patient stated that the first application of the lotion took away three-quarters of the pain, and he had an excellent night's sleep. Two more douchings with water were prescribed and the hyposulphite lotion was reduced to one in four, to be applied after the douching. A lotion consisting of plumbi subacetat. fort. 1/2 oz., glycerin 2 dr., and aqua destil. 10 oz., was prescribed, to be used, one part to two of warm water for the face, and one part to four of water for the scalp. Improvement followed, and a week later the patient was quite comfortable. He was practically well in a fortnight. In the fur-dye case the same hyposulphite lotion was prescribed to be used after washing the parts thoroughly with superfatted soap and free swilling with fresh water afterwards. After the application of the lotion the skin was to be dusted with prepared calamine (2 oz.) and starch (1 oz.). Five days later the inflammation was subsiding, the edema had not increased, and no discomfort was felt.

Gentian Violet in Septicæmia.—It has been established that gentian violet in 1:1,000,000 dilution will inhibit the growth of staphylococci. D. T. Smith and H. Casparis ("Journal of the American Medical Association," December 29, 1923) employed intravenous injections of gentian violet in an infant, aged fifteen months, suffering from staphylococcus septicæmia. This patient had been admitted to the wards three weeks previously suffering from severe bacillary dysentery and otitis media, and had later developed multiple large staphylococcus abscesses and staphylococcus septicæmia. His condition had gradually grown worse, his temperature, which had ranged from 101° to 103° F., had finally reached 106°, and he was apparently moribund. *Staphylococcus aureus* had been demonstrated in two blood cultures made during the three days preceding the first injection. Three injections of a 0.25 per cent. aqueous solution of gentian violet were given at twenty-four hour intervals. The first dose was 5 mg. per kilogram of body weight. The calculated resulting concentration of the dye in the body fluid was 1:140,000, assuming the fluid content of the body to be 70 per cent. of the body weight. The white blood cell count, which was 22,000 at the time of injection, was reduced to 10,000 twelve hours later, but returned almost to the original count during the next twelve hours. Because of the possibility that the reduction in the white blood cell count was due to the effect of the dye in that concentration, the amount was reduced, and the second and third doses consisted of 3 mg. per kilogram of body weight. Blood cultures made immediately preceding the second and third injections were sterile. After the third injection the patient's appearance had improved, his fever was reduced, and the white blood count had decreased. The child, whose condition was wretched at the time the injection of gentian violet was begun, gradually improved. He gained weight, the

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abscesses healed, and he was discharged from the hospital two months later, entirely well.

A New Trypanocide.—In a communication presented to the Académie des Sciences at its meeting on February 11, 1924, E. Fourneau, J. Tréfouël, J. Vallée, and Madame J. Tréfouël dealt with the new trypanocide manufactured by the Farbenfabriken vormals Fr. Bayer and known under the designation "205 Bayer." Up to the present the constitution of this remedy has not been disclosed, the manufacturers refusing to divulge its composition, alleging the difficulty in assuring themselves against foreign competition. However, it is known that it contains neither arsenic nor antimony. Basing themselves on an exhaustive investigation of the patents taken out since 1912, for a series of compounds discovered in the laboratories of the Bayer firm, in the first of which it is stated that the compounds described in the patent act on trypanosomes, and as a result of systematic research work extending over a year, the authors have succeeded in preparing a substance which they believe to be identical with "Bayer 205." The physical properties and the trypanocidal action of both compounds are absolutely identical. However, in consequence of the absence of a sufficient amount of the German product, the authors were unable to make a thorough chemical comparison of the two compounds. The substance elaborated by the French investigators has been given the description "No. 309"; chemically it is described as the symmetrical urea of sodium *m*-aminobenzoyl-*m*-amino-*p*-methyl benzoyl. 1 . naphthylamino . 4 . 6 . 8 . trisulphonate; molecular weight 1,428. It is prepared by causing *p*-methyl-*m*-nitrobenzoic chloride to act on 1 . naphthylamino . 4 . 6 . 8 . sodium trisulphonate in the presence of sodium acetate, shaking vigorously. The nitrated amide is reduced and *m*-nitrobenzoyl chloride is made to act on the amine product thus obtained. After reducing the nitro group the two molecules of the complex are linked by the action of phosgene. "No. 309" occurs as a whitish, occasionally greyish or dull flesh-coloured powder; it is easily soluble in water; insoluble in alcohol. It is readily hydrolysed by concentrated sulphuric acid. The action it displays on animals is highly remarkable. A dose of 0.01 to 0.012 gram does not cause any apparent reaction in a normal mouse weighing 20 grams. On injecting the drug into a mouse infected with *Trypanosoma Brucei* (Nagana), $\frac{1}{32}$ of a milligram suffices to arrest the development of the infection for several days, and occasionally to stop it completely. Without exception, a dose of $\frac{1}{16}$ of a milligram suffices to effect a cure of the animal. In the course of their exhaustive investigations, necessitating the preparation of a very large number of complex urea compounds, the authors found that "No. 309" affords a striking instance of specific action linked to a definite molecular structure; the slightest modification of the structure of its molecule affects fundamentally its trypanocidal action.

OPTICS

Testing Acuteness of Vision.—J. M. McCallie ("American Journal of Physiological Optics," 1923, p. 381) has devised a dot test as a substitute for the "illiterate" E test, which he considers is not at present scientifically constructed. There are three cards with the dot in the boy's ring; three with the dot in the girl's ring; three with the dot in the bear's ring; and one with no dot in either ring. Each dot has a diameter of 0.0698 inch. The boy, girl and bear are each supposed to be catching the ball (dot) on their racket (ring), and the patient is required to tell which has the ball. Experience indicates that the dot test is superior to the Snellen letters as a test for acuteness of vision.

Anæsthetic Compounds.—In describing the preparation of various derivatives of vinylidiacetonalkamines, F. S. Kipping ("Transactions of the Chemical Society,"

1923, 3113) deals with 4-benzyloxy-1,2,2,6-tetramethyl-piperidine (*N*-methyl- β -eucaine), which he obtained by methylating the stable form of vinylidiacetonalkamine with formalin, and treating the crude hydrochloride with an excess of benzyl chloride at 160°. The product is freed from unchanged benzyl chloride by ether, the oily base is liberated by alkali and extracted with ether. The crude hydrochloride, which cannot be crystallised, is converted into the cinnamate by precipitation with a slightly alkaline solution of sodium cinnamate, and the cinnamate is purified by crystallisation from aqueous alcohol. The base prepared from this is a thick oil from which, in a mixture of acetone and ethyl acetate, the pure hydrochloride separates in needles, melting at 195°. It has a distinct but extremely evanescent local anæsthetic action, which is markedly inferior to that of β -eucaine. 4-Hydroxy-1,2,2,6-tetramethylpiperidine tropic ester is superior in rapidity and extent of action to euphthalmin as a mydriatic when tested on cats, but much inferior to atropine or homatropine.

Reflex Visual Sensations.—F. Allen ("Journal of the Optical Society of America," 1923, 8, 583) has conducted a number of experiments which show that every ray of light produces a direct and reflex effect upon the retina. He found that the direct action fatigued either one or two of the primary sensations, red, green and violet, according as the colour stimulus was simple or compound in its nature; the reflex effect caused the excitation of all three sensations in such a manner as to enhance their luminous response. It was further indicated that this reflex action was responsible for the production of the white light underlying all sensation of colour, and that this light was also to be identified with the self light of the retina. The reflex effect was found to be transferred from one eye to the other; or, if both are regarded as transferable, the reflex was always greatly in excess of the direct. In the case of six colours, .660 μ , .570 μ , .520 μ , .505 μ , .480 μ , and .425 μ , the direct and reflex effects balanced each other so that these hues, being seen without enhancement or diminution of brightness, were termed equilibrium colours. Since darkness adaption of the eye was found strongly to affect the other, the experiments were conducted in daylight, so that the unused eye was maintained in daylight adaption.

Prism Exercises.—L. C. Peter ("British Journal of Ophthalmology," 1924, 20) in a paper on "The Relation of Exophoria in early Presbyopia to Refractive Errors" recommends a full correction for distance. This is largely determined by the patient's tolerance and by the results obtained by prismatic and stereoscopic exercises. The cases fall into two groups. Those suitable for prism exercises alone usually manifest exophoria for distance and in a greater degree for the near point. Adduction is below normal. Those in which stereoscopic exercises, combined with the prism exercises, are best adapted have an esophoria for distance and exophoria for the near point. In the latter group both adduction and abduction may be above normal, but improperly balanced. The technique in the exercises is most important, and is briefly as follows:—All exercises should be conducted at six metres with the light at the proper level—not above the patient's eyes; a full correction should be worn during the exercises; prisms must not be tilted; increase in prism strength should be very gradual until the patient has caught the knack of fusing; the patient must see the two images fuse into one (one of the causes of failure is due to non-observance of this rule); minute instruction must be given, and the patient should return from time to time to have the technique corrected. The degree of exophoria which may be overcome by this method averages two to seven degrees at infinity, with a corresponding seven to twelve for the near point. Failure cannot be determined by the Maddox rod, as long before this shows a nearly normal balance the patient will report relief from the symptoms which led to seek advice.

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The Slit-lamp in Ophthalmology.—T. Harrison Butler ("Lancet" I, 1924, 231) points out that the slit-lamp enables problems connected with the ocular fundus and the media to be studied afresh, not only by greatly increased magnification, but by permitting the illumination of structures from behind, and enabling the anatomy of the eye to be seen in optical section. A ray of light can be directed into the eye and the cornea may be seen to be illuminated, the anterior chamber dark, and in lens sclerosis there can be seen in the lens dissociation areas. By lens light one is able to see holes and atrophic areas in the iris collarette. Also, the circulation in the vessels at the limbus in the normal eye may be seen. The examination must be made in complete darkness, and the more difficult objects can be seen only when the eye was dark-adapted. The slit-lamp does not supersede present methods, but amplifies and supplements them. The depth to which foreign bodies have penetrated the cornea can be correctly estimated by using the lamp, and means for removal taken accordingly. It is of especial value in inflammatory conditions of the cornea. Deposits of cells on the endothelium in keratitis punctata can be detected when the particles are too small to be seen with the naked eye. Observation of the aqueous is very difficult, and calls for complete dark adaptation. The presence of cells in the aqueous is the first sign of irido-cyclitis, and the lamp valuable in the case of a sympathising eye; such cells when seen can be regarded as an early warning of the onset of sympathetic ophthalmitis. The slit-lamp is of most service in examining the lens. The optical section given by the narrow ribbon of light enables the lens to be seen in profile. Vogt has differentiated as lens regions the capsule, the cortex, the senile nucleus, and the embryonic nucleus. Clinically, the lens may be regarded as three lenses, one within the other, and these give mirror effects to focal illumination. In a case of diabetic cataract Mr Butler noted that the lens capsule was greatly thickened. One of the chief uses of the slit-lamp was the power it gave to recognise slight signs of cyclitis.

Low-power Photomicrography.—H. G. Butterfield ("British Medical Journal," I, 1924, 113) has designed an apparatus to overcome those disadvantages which are associated with the microscopic system of lenses and taking advantage of developments in the manufacture of modern photographic anastigmatic lenses. A short focus lens is employed and covers a relatively enormous area with acute definition, since it is corrected for flatness of field over an angle of thirty degrees on either side of the central axis as against two or three degrees of the microscopic system of lenses. The apparatus consists essentially of a replica of a simple form of microscopic stage fixed at right angles to a wide brass tube which slides over an inner tube. This inner tube is fitted over a lens screwed into a circular brass plate which has a thin margin pierced with screw holes for attachment to a lens panel of the field, square bellows, or Sanderson type. The inner tube has a milled ring which can be rotated and gives control of the iris diaphragm of the lens from outside. In use the outer tube with the stage is removed, the slide fixed to the latter by means of the clips and the portion to be photographed centred in the aperture of the stage. The bellows of the camera is extended until the distance from the ground-glass focussing screen to the nodal point of the lens is equal to the number of magnifications required multiplied by the focal length of the lens employed in inches, plus one focal length. The outer tube and stage bearing the slide is then slipped over the inner tube until the object is sharply defined on the focussing screen and the exposure completed in the ordinary way. The outer tube screws into the back of the stage and, if desired, can be removed and replaced with a shorter tube to enable a lens of 0.9 inch focal length to be used, giving a magnification of forty linear diameters at the maximum extension of thirty-six inches. Both these lenses are mounted so as to be capable of use in the microscope where large

areas of flat field are required for visual purposes and their component glasses are arranged in the reverse of the usual order, since under these conditions of use the normal relationship of object, lens, and plate are reversed as compared with ordinary photographic conditions, where the distance from lens to object is very great as compared with the distance from lens to plate. As used under these conditions the size of the plate covered sharply from corner to corner ranges between the standard quarter-plate and a plate measuring 15 in. by 12 in. In practice the best illuminant has been found to be a half-watt type of incandescent electric lamp having an opal glass bulb used at approximately two inches from the object slide.

PHARMACOLOGY

Pharmacology of Strontium.—Alwens ("Klinische Wochenschrift," January 22, 1924) has been able to prove clinically the therapeutic action of strontium in promoting the growth of bone tissue. Strontium also possesses the property of facilitating the assimilation of calcium by osteoid tissues, and in this respect has been found to yield satisfactory results in consolidating fractures in old persons. Experimental investigations have demonstrated that strontium exerts an analgesic effect, and may in certain cases even replace the use of morphine.

Pharmacology of Chloretone and Benzyl Alcohol.—L. W. Rowe concludes that chloretone is twice as active as benzyl alcohol as an antispasmodic, and that its effect is more lasting. The pharmacological data and graphs are given in the "Journal of the American Pharmaceutical Association" for January (p. 22). The action of benzyl alcohol was studied because it is generally agreed that its esters (benzyl benzoate, benzyl acetate and benzyl mandelate) are hydrolysed in the process of absorption from the alimentary tract. Brometone is nearly as active as chloretone, but is handicapped by being much less soluble.

Action of Coffee and Tea.—K. B. Lehmann and H. Weil ("Klinische Wochenschrift," January 8, 1924) undertook a series of investigations to determine whether there is a difference in the effects produced by coffee and by tea, or whether the effects of both are solely attributable to the caffeine content of both beverages. The results showed that caffeine alone is responsible for the effects produced, which are apparent only when an amount of about 0.25 gram has been ingested, either in the form of coffee or of tea. This amount produces a more or less pronounced slowing of the pulse rate, a slight diuretic action, and is sufficient to disturb sleep. With amounts of 0.3 to 0.5 gram of caffeine the effects are more marked. The degree of action of caffeine, taken in the form of coffee or tea, is largely influenced by the momentary state of excitation, and is less pronounced in the presence of extreme fatigue.

Mensuration of Anæsthetic Action.—It is an established fact that the normal eye closes immediately the cornea is touched, the slightest application of a fine hair sufficing to produce this action, whereas an anæsthetised eye reacts only to repeated excitation, the sensitiveness to irritation depending upon the degree of anaesthesia. J. Regnier ("Revue Scientifique," No. 19, 1923) adopted this distinction in reaction between the normal and anæsthetised eye as the basis of a comparative study of the anæsthetic action of a number of compounds. According to this method cocaine was found to possess an anæsthetic action which is ten to thirteen times more powerful than that of novocain. Stovain was found to be almost as active as cocaine when applied in highly concentrated solution (1:10), but its action diminishes with decreasing concentration, and in comparatively dilute solutions (1:25 and 1:50) it is about seven times less active than cocaine.

Nephroseine.—An interesting new test for the early diagnosis of tuberculosis is described by O. Krukowski ("Paris Médical," January 12, 1924), based on the detection of a dye which appears in the urine, the presence

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of which was first observed in 1911. A large number of tests were carried out on subjects ranging in age from three months to persons in very advanced age, and as a result of his observations Krukowski affirms that nephroroseine is demonstrable in the urine in the earliest initial period of tubercular infection, and he has recorded positive tests even in infants four months old. To carry out the test, a sample of the urine is diluted with an equal volume of concentrated hydrochloric acid [in the original the term "acide salin" appears, but this is evidently a literal translation of the Polish word for HCl = "kwas solny"; the author is a surgeon in the State hospital in Lwow (Lemberg).—EDITOR], and a drop of sodium nitrite solution is added. The mixture is shaken with amylic alcohol and examined in a spectroscope. It is apparent as a dark matt red band between b and F ($\lambda 517\lambda 500$). This colouring matter is insoluble in ether and in chloroform, but is readily soluble in amylic alcohol. Nephroroseine has never been found in the urine of healthy persons.

Pharmacology of Benzyl Alcohol.—No change in blood pressure was observed by Gruber ("Journal of Laboratory and Clinical Medicine," October 1923) in dogs when benzyl alcohol, benzyl acetate or benzyl benzoate was administered orally. The drugs of the nitrite series lower both systolic and diastolic blood pressures in normal, unanaesthetised dogs when given by mouth, the same as when given clinically in human beings. Moderate doses of benzyl benzoate, 20 per cent. by volume in alcohol, produced a fall in blood pressure, probably due to the alcohol, not the benzyl esters. In susceptible, unanaesthetised animals moderate doses of ethyl alcohol produced a fall in blood pressure. When given orally, benzyl alcohol, benzyl acetate and benzyl benzoate do not alter the pulse rate. The drugs of the nitrite series and ethyl alcohol, on the other hand, cause acceleration of the pulse due to the fall in blood pressure and resultant anaemia of the cardiac centres. Benzyl alcohol and benzyl acetate possess an emetic action. The action is due to local irritation of the alimentary canal, and not to excitation of the vomiting centre. Subcutaneous and intramuscular injections of the same dose as given by mouth in the same animal do not produce emesis. Moderate doses of benzyl alcohol and benzyl acetate and benzyl benzoate possess a cathartic action. This action is due to the local irritation by the drug. Benzyl benzoate possesses a very slight narcotic action when given in huge doses.

Mechanism of the Action of Insulin.—J. A. Collazo, M. Händel and P. Rubino ("Klinische Wochenschrift," February 19, 1924) undertook a series of experiments on guinea-pigs to determine the method of action of Insulin and its point of attack in the intermediary carbohydrate metabolism. They summarise their results in the following conclusions:—(1) The content of glycogen in the liver and muscles is apparently increased following the administration of Insulin; (2) it slightly decreases the lactacidogen content of the muscles; (3) it does not appreciably alter the lactic-acid content in the muscles when added to liver pulp *in vitro* (two hours at 40°); (4) it does not appreciably influence the degradation of glycogen; (5) the addition of Insulin to muscle pulp promotes the formation of lactic acid; (6) the degradation of lactacidogen in muscle pulp is promoted by Insulin; (7) following the injection of Insulin into guinea-pigs their musculature exhibits an increased capacity for producing lactic acid (up to three times). As a result of their experiments, the authors conclude that the action of Insulin in decreasing the sugar content of the blood is attributable to two factors:—(1) Increased accumulation of glycogen, and (2) better utilisation of the carbohydrates, which finds its expression in the acceleration of the degradation of lactacidogen, and in the increased formation of lactic acid. The action is probably attributable to influence on the ferment, accelerating the formation of glycogen and the degradation of lactacidogen.

PHOTOGRAPHY

Photometric Measurement by Photoelectric Cells.—G. M. Dobson in the "Proceedings of the Royal Society" (1923, A 104, p. 248) describes a means of overcoming the inconstancy of photoelectric cells as a means of measuring light intensity. The principle consists in subjecting the cell alternately to light which has passed either through the medium whose opacity is required or through a standard optical wedge of known gradation. The latter is adjusted so that the photoelectric current is unchanged, and thus any question of variation in the cell is eliminated. T. Slater Price in "Nature" of March 8 draws attention to a new physical photometer devised by F. C. Toy and S. O. Rawling, which uses Dobson's device, but substitutes a selenium cell for the photoelectric cell.

Sensitivity of Silver Bromide Grains.—Clark ("Photographic Journal," 1924, 91) considers that the following results of his experiments are in accordance with the view that the high sensitivity of the silver halide grains of a photographic emulsion is due primarily to the presence in them of a limited amount of material other than normal silver bromide, and this confers extra sensitivity at points in the grains. He finds that the action of chromic acid on a single-layer plate is to bring about a general lateral shift of the characteristic curve of the plate. The gamma is unaltered if sufficient treatment in the desensitiser is given, but the total range of the curve is decreased owing to decrease in the range of the fully-exposed portion. The minimum speeds attained by treatment of "ultra rapid," "special rapid," and "process" plates by chromic acid were 5, 2 and 1 II. & D. respectively, and the rate of decrease in speed is accentuated by preliminary exposure, the effect being more marked with the "ultra rapid" than with the "special rapid" plates and absent in the case of the "process" plates. Preliminary exposure to sodium arsenite solution has the same effect as light in increasing the rate of desensitisation.

Nitro-sulphide Toning.—W. B. Shaw ("British Journal of Photography," II, 1923, 759) has carried out further experiments with a view to improving the process described in the *C. & D.*, II, 1923, 447, and finds that a solution containing barium sulphide together with a small amount of sodium meta-nitro-benzene sulphonate acts as a rapid and efficient toning bath for bromide and gaslight prints. The most successful formula has been found to be as follows:—

Saturated solution of barium sulphide	15 parts
10 per cent. solution of sodium meta-nitro-benzene sulphonate	... ... 1 part

The saturated solution of barium sulphide is best prepared by shaking up 30 gm. (1 oz.) of the substance with $2\frac{1}{2}$ litres (80 oz.) of warm water and allowing the undissolved portion to settle. The liquid is poured off, and, if kept in a tightly closed bottle, will remain unchanged for months. The two stock solutions are mixed for use, and the toning solution so formed will remain active for an hour or so. A large number of prints may be toned in a relatively small volume of solution without exhaustion taking place. Practically all commercial bromide and gaslight papers are quickly sulphided by the solution, toning generally being completed within three minutes at a temperature not below 55° F. When working with very cold solutions this period may be doubled. The tones obtained vary considerably with the make of paper employed. It is desirable that prints intended for toning by this method should have been developed with a metol-hydroquinone developer. Instances have been noted in which amidol-developed prints refused to tone at all, or the resulting colours were inferior to those obtained on prints developed with M-Q. In general, a full measure of exposure has been found preferable to the short exposure and full development.

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VETERINARY MEDICINE

Braxy and Thyroid Deficiency.—Ruth C. Bamber, in a letter to "Nature" (February 2), points out that "certain facts in regard to braxy and braxy-like diseases strongly suggest that the root of the trouble lies in the temporary lessening of the efficiency of the thyroid gland and a consequent lowering of the resistance of the body to bacterial invasion from the alimentary tract." On this basis, a thyroid preparation, or even simple iodine, given to sheep, might prevent the disease of braxy from which sheep die very quickly during the coldest months of the year. Undoubtedly sheep are often on the verge of subthyroidism, and the first "snap of cold" or excessive feeding overstrains the gland which already has difficulty in meeting normal demands. The thyroid only attains fullest activity with sexual maturity, and it is young animals, especially castrated males, that are attacked by braxy. Experiments are proceeding in Wales on the line indicated.

Sterility of Forced Lactation in the Cow.—As milk production increases in any particular herd or breed, so also there increases a tendency to barrenness among the females. This latter, which is referred to as the sterility of forced lactation, is discussed by L. P. Pugh ("Veterinary Record," 1924, 87) under the influences of (1) heredity, (2) feeding, (3) early weaning, and (4) milking. It is tentatively suggested that the following measures would tend to preserve milch cows in good breeding condition: (1) Not more than two milkings daily. (2) The addition of mineral salts to the daily food. The mineral mixture should contain a large proportion of calcium phosphate in a readily assimilable form. (3) A rest from lactation during the last two months of pregnancy, during which period the mineral feeding should be continued. In heavy milkers the drying-off process should start at the sixth month of pregnancy. (4) Suckling of the calf for the first fortnight after parturition.

Iron Deficiency in Pigs.—J. P. McGowan and A. Crichton ("Biochemical Journal," 1924, 265) describe a condition in suckling pigs and experiments connected therewith. This condition is attributable to a lack of iron in the sow's milk. The disease, although actually commenced some time previously, usually declares itself when the pigs are about three weeks old. Those affected are very pale in colour, very fat and stocky in build, and become more and more listless. Often there is blueness of the ears and along the back of the body. Spasmodic breathing develops, and many animals die suddenly at this stage. Diarrhoea is a prominent feature and great thirst is often present. Temperature is normal or sub-normal and haemoglobin may be as low as 20 per cent. The disease is not of an infectious nature, but should be diagnosed as soon as possible. It may be prevented and cured by the administration of ferric oxide in the food put into the sow's pen. This ensures a rich source of iron in the pen to which the young pigs have access, and they should be encouraged to eat this food. Exercise minimises the risk of their becoming too fat, which, though a direct consequence of the disease, would appear to predispose to it. The possible relation of the condition to "wet" beriberi and to avitaminosis in general is discussed.

"Bayer 205" in Trypanosomiasis.—Professor F. R. Kleine ("British Medical Journal," 1, 1924, 377) reports his recent work in Africa on the action of "Bayer 205" in trypanosomiasis. Attention was first directed to finding out, in cattle, how long after the administration of this synthetic the prophylactic protection lasted. Both in Rhodesia and the Congo it was shown that even large doses of "Bayer 205"—even up to 10 grams for a bullock weighing 5 cwt., the dose being repeatedly given—did not prevent infection by trypanosomes. The drug did, however, diminish the virulence of trypanosomes in experimental cattle, the cattle remain-

ing in good condition, while the control animals died. Combinations of "Bayer 205" and tartar emetic greatly improved the prophylactic and therapeutic results. Investigations of the treatment of snra in horses by "Bayer 205" have been carried out by E. Rodenwald and J. B. Douwes ("Archiv für Schiffs- und Tropen-Hygiene," Vol. 27, No. 9), who find that 50 per cent. of the horses treated, whether healthy or infected, suffer severely from the injection, even if the dose is too small to have a curative effect. Doses affecting the horse and killing the trypanosomes were unpleasantly close together, so big sterilising doses could not be given. The large dose was 2½ per cent. of the body-weight, small doses were $\frac{1}{4}$ per cent. of the body-weight every other day till 5 or 7 per cent. had been administered (in 10 per cent. solution). The large dose may kill the horse; the small one is much less effective. Neither does any good if the disease is well established. The disease is so far mastered if the horse does not die at once, but relapsing cases are incurable. The trypanosomes, if not killed, become resistant within twenty minutes, and are more and more resistant in each succeeding relapse.

Destruction of Red Mite.—The common red mite of the chicken (*Dermanyssus gallinae*, Redi) feeds by sucking the blood of chickens, attacking them at night while they are roosting. It passes the day under roosts and in crevices elsewhere in the chicken house. The mite is active in all but the coldest periods of the year, and reproduces with great prolificacy. It can live for at least three months without food. A large number of substances have been tested by the United States Department of Agriculture (Department Bulletin No. 1228) to ascertain their value in exterminating this parasite. It was found that a wooden roost grooved beneath so as to fit tightly into a tin trough running the whole length of the roost and containing a coal-tar and mineral-oil mixture kept the roost free from mites, but the rest of the house continued infected. Naphthalene burned in sawdust and carbon was efficient when used in a fumigatorium. Fumigation of chicken houses does not seem to be satisfactory. Of the materials in the form of dusts, fluorides, mercuric chloride, Paris green, hellebore, sulphur and air-slaked lime were of no value. Used in tobacco dust, nicotine up to 5.26 per cent. was inefficient, as were also phenols up to 2 per cent. in a dust carrier. Powdered derris root and pyrethrum flowers were efficient when diluted. Naphthalene was satisfactory only in the case of nest boxes. Powdered sabadilla seeds give promise of good results. Tests with materials applied as paints indicated that heavy oils, either pure or slightly diluted with lighter oils, were efficient. Cresol 5 and 10 per cent. in whitewash was of some value, but a stiff whitewash alone or with 23 per cent. of naphthalene was useless. Among a large number of materials applied as sprays, pure heavy coal-tar creosote was found entirely efficient, and kerosene moderately so. In whitewash, 11 per cent. of creosote oil and 10 per cent. of crude carabolic acid were satisfactory, but 8 per cent. of the latter was of no value and 11 per cent. of phenol only moderately efficient. Mechanical mixtures are less satisfactory than emulsions or combinations of oils. Kerosene-oil emulsion containing 77 per cent. of oil was efficient when diluted 1 to 3. Chicken-house tests with coal-tar disinfectants were made with sprays containing as much as 4.8 per cent. of oil, and at this strength a single application was moderately effective. Kerosene-oil emulsion diluted to 19.25 per cent. appeared superior to pure kerosene. Emulsions of coal-tar oil diluted to 4.8 per cent. were inferior to straight tar oils and to mixtures of coal tar and mineral oils. Heavy oils from coal tar and wood tar, or such oils diluted with a lighter oil, so that not less than 20 per cent. of the mixture is heavy oil, will successfully control chicken mites, provided the premises are thoroughly sprayed and the material not stinted. A heavy mineral-oil emulsion containing at least 20 per cent. oil in the actual spray will be efficient under similar conditions.

Births

Notices for insertion in this column must be properly authenticated.

GOODYEAR.—At 45 Belvedere Road, Upper Norwood, London, S.E.19, on March 23, the wife of C. J. C. Goodyear, M.P.S. (Southern representative of Sutley & Silverlock, Ltd.), of a daughter.

MACAULEY.—At the Medical Hall, Downpatrick, on March 21, the wife of J. Macauley, Ph.C., of a son.

WILLIAMS.—At 28 Severn Avenue, Weston-super-Mare, on March 18, the wife of A. W. Williams, Ph.C., Taunton, of a son.

Marriages

BELL-HOLT.—At Adelaide Street Wesleyan Chapel, Blackpool, on March 22, by the Rev. M. Whitehead, William W. B. Bell, M.P.S., Selby, to Doris, only daughter of Mr. A. Holt, The Loggia, Blackpool.

Deaths

ALLARD.—At 105 Bramfield Road, Wandsworth Common, London, S.W., on March 20, suddenly, Mr. William Allard, London representative of Wyleys, Ltd., manufacturing chemists, Coventry, for the past twenty years, aged fifty-five.

BIRKETT.—At his residence, 5 Morecambe Terrace, Morecambe, on March 22, Alderman John Robert Birkett, J.P., dentist and retired chemist and druggist, aged sixty-nine. Alderman Birkett was born within a short distance of the shop in the Crescent where he commenced business in 1875. He was educated at Lancaster, and when sixteen years of age began his career in pharmacy as improver with the late Mr. Joseph Albright, a veteran whose message of congratulation on the occasion of the Jubilee Issue of THE CHEMIST AND DRUGGIST in 1903 was reproduced in facsimile. After experience as assistant to a Leeds chemist, Mr. Birkett passed the Qualifying examination of the Pharmaceutical Society and the Assistants' examination of the Society of Apothecaries. In addition to his pharmacy, Alderman Birkett had a dental practice, and to this, after some years, he devoted himself exclusively. At a comparatively early date he made judicious purchases of property, and, in addition, he took an active part in the development of his borough through the Morecambe Pier Company and other bodies of that character. Alderman Birkett was elected Mayor for the first time in 1903; he served for three successive years, and again in the periods 1910-11 and 1920-23. He presented a chain of office to the borough, gave an annual tea to 600 old people, and contributed liberally to the amenities of the town in other ways during his forty years of public life. Alderman Birkett is survived by a widow and three sons. Mr. John Birkett, Ph.C., The Crescent, is a cousin.

BREEZE.—The funeral of the late Mr. George Breeze, J.P., chemist and druggist, Plymouth, whose death was recorded in our issue of March 22 (p. 407), took place at the Ford Park Cemetery on March 19. Breeze's (Plymouth), Ltd., was represented by Miss Furze, Messrs. C. T. Weary, R. C. Stevenson, R. R. Harvey, and F. Binney; the Plymouth and District Branch of the Pharmaceutical Society by Messrs. B. Shelton (chairman), F. A. Spear (secretary), W. R. W. Bull, F. A. Goodwin, Ph.C., C. J. Park, Ph.C., F. H. Ralph, J. Reed, J. D. Turney, Ph.C., and C. U'Ren.; and the Plymouth branch of the Retail Pharmacists' Union by Mr. R. S. Gollop (secretary). The floral tributes included a wreath from the staff of Messrs. Breeze's, Ltd., and another from the Plymouth and District Association of Pharmacists.

BROWNE.—At his residence, Follers Manor, Alfriston, on March 12, Mr. Henry Robert Browne, Ph.C., 1 Cornfield Road, Eastbourne, aged eighty-four. Prior to passing the Major examination in 1861, Mr. Browne was a chief dispenser at Apothecaries' Hall, London, of which

city he was a native. He commenced on his own account at Eastbourne in the early 'sixties, and built up a high-class dispensing business, adding at an early stage the manufacture of aerated waters. Mr. Browne, who was of a retiring disposition, was a keen botanist and antiquarian, and was fond of sea bathing and walking. He is survived by a widow, two sons, and two daughters. The business is being continued by his eldest son, Mr. H. C. Browne, chemist and druggist, who has managed it for a considerable period.

CALLADINE.—At 4 Hanover Square, Sheffield, recently, Mr. John Calladine, aged eighty. Mr. Calladine entered the business of William Fox & Sons (Sheffield), Ltd., in 1898, and remained with them until his retirement twelve months ago. He is survived by a widow, a son and two daughters.

CLARKE.—At Saxmundham, on February 20, Mr. George Ernest Clarke, J.P., L.D.S.R.C.S.Irel., Ph.C., Albion House. Mr. Clarke, who passed the Major examination in 1872, carried on for thirty years the business in London Road, Lowestoft, now owned by Mr. P. E. F. Perrédes, Ph.C. He also had a dental practice, which, on disposing of his pharmacy, he continued in another part of the town. Eventually he sold this and removed to Saxmundham.

ELLIMAN.—At 6 Queen's Gardens, Hove, on March 22, Mr. James Elliman (Elliman, Sons & Co., embrocation manufacturers, Chandos Street, Slough), aged seventy-seven. The secret of Mr. Elliman's success as the founder of the business bearing his name was indicated in an article in THE CHEMIST AND DRUGGIST, II, 1903, p. 955, which described his private room in the firm's offices as reflecting "method, the essence of organisation, the art of business, the simplicity of the born administrator." When the Proprietary Articles Trade Association was formed in 1896 Mr. Elliman became its first President, and his firm, which had

a price-protection system of their own dating back to 1889, contributed £100 to the funds of the Association. Their goods, however, were not placed on the P.A.T.A. list, and in 1918 a dispute, in which the Association was involved, resulted in the general discontinuance of the sale of these preparations by chemists. Mr. Elliman made numerous gifts, estimated to be worth in all more than £100,000, to the town of Slough, and completed the long-unfinished parish church at his own expense.

FRASER.—At a nursing home, on March 19, Mr. Alexander Fraser, Eskdale, Paisley, partner of James Macduff & Co., chemists, 12 High Street, aged sixty-seven.

GREAVES.—At Galen House, Sharrow Head, Sheffield, on March 21, Mr. Robert Bond Greaves, M.D., chemist and druggist, aged fifty-nine. Dr. Greaves was born at Plymouth and was educated at Bromsgrove College, Birmingham. He passed the Qualifying examination of the Pharmaceutical Society in 1886, and for some time was principal of the Sheffield College of Pharmacy. In 1904 he took the M.D. degree of Durham University. Dr. Greaves was medical officer for one of the districts of Sheffield, and in that capacity was very popular; he was also Vice-President of the Sheffield Poetry Club, and issued more than one volume of verse. A widow, two sons and three daughters survive him.

ORD.—At Keymer, on February 26, Mr. Septimus William Ord, Ph.C. (J. L. Bullock & Co., chemists, 3 Hanover Street, London, W.1), aged sixty-nine. The business founded (at 22 Conduit Street, W.1) by the late Mr. J. L. Bullock in 1841 gained a wide reputation through the acid glycerin of pepsin originated by the proprietor and extensively prescribed by consultants.



MR. J. ELLIMAN

Trade Notes

WEEDICIDE.—William Cooper & Nephews, Ltd., Berkhamsted, ask chemists to communicate with them in regard to agencies for Weedicide. The business done by agents last year created a record.

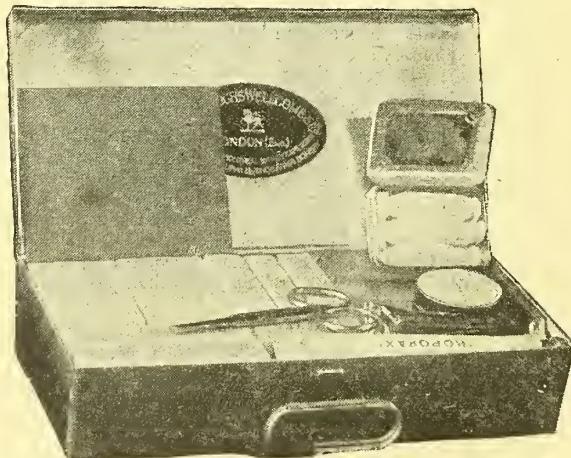
EARLIER CLOSING.—Oppenheimer, Son & Co., Ltd., manufacturing chemists, London, E.C.4, announce that their offices, warehouses and laboratories will close at 5 o'clock during the six months starting with April.

FLAVINE ANTISEPTICS.—Boots Pure Drug Co., Ltd., Nottingham, have issued a booklet for the medical profession, giving a summary of the use of flavine and its preparations. The summary is concise and the information is useful, both to medical men and chemists.

DIGITALINE NATIVELLE.—A notice regarding the supply of Digitaline Nativelle in Great Britain and Ireland appears in our advertisement pages. Laboratory Nativelle, Ltd. (a company which has just been formed in this country), have appointed as their sole distributors Wilcox, Jozéau & Co., 15 Great St. Andrew Street, London, W.C.2.

BEAVELOUR PUFFS.—Solport Brothers, Ltd., 184 to 190 Goswell Road, London, E.C.1, send us samples of the Beavelour puffs, which they are advertising in this issue. The puffs, which are made of silk (a new material for this purpose) are coloured a soft shade of brown, and they are packed either in bronze-covered boxes or in cellophane dustproof envelopes, which are very convenient for retail. The puffs are beautifully soft in feel and hold powder readily. Beavelour puffs are stocked by most of the wholesale houses.

BRITISH ROUND-THE-WORLD FLIGHT.—The entire medical equipment for the British air flight round the world, which started from Calshot on March 25, has been supplied by Burroughs Wellcome & Co. The equipment consists of two "Tabloid" medicine cases in aluminium.



One case containing "Tabloid" dressings measures 7 in. by $3\frac{1}{2}$ in. by $1\frac{1}{2}$ in., and a smaller case with a supply of "Tabloid" products in featherweight containers measures $4\frac{1}{2}$ in. by $3\frac{1}{2}$ in. by $1\frac{1}{8}$ in. The illustration shows one of the larger cases open.

SCHOLL'S FOOT APPLIANCE FACTORY in Clerkenwell was burnt to the ground on March 21, but the Scholl Manufacturing Co., Ltd., 1, 2, 3 and 4 Giltspur Street, London, E.C., ask us to advise the trade that a full stock of Dr. Scholl's foot comfort appliances and specialities is available at the Giltspur Street warehouse. This stock, it is anticipated, will maintain the supply until stocks are delivered from their other factories and the London factory is reconstructed. The company embody this message to the trade in their advertisement in this issue.

Business Changes

H. E. CURTIS & SONS, LTD., have removed to 7 Mandeville Place, Wigmore Street, London, W.1.

MR. H. E. BAILEY, chemist and druggist, has opened a portrait studio at his premises, 64 High Street, Highgate, London, N.6.

MR. J. W. WALTON, chemist and druggist, has taken over the business of Mr. P. B. Roberts, Ph.C., 108 Deansgate, Bolton.

MR. J. C. JAMESON has acquired the business of Mr. F. R. Parker, chemist and druggist, 130 Westgate Road, Newcastle-on-Tyne.

MR. W. A. THOMAS, chemist and druggist, formerly of Crewkerne, will shortly open a business at Old Milton Road, New Milton.

MR. H. E. NOBLE, chemist and druggist, Long Causeway, Peterborough, has transferred his business to Midgate, in the same city.

MR. J. E. BROWNLOW, chemist and druggist, has acquired the business of Mr. B. Simpson, chemist and druggist, 33 High Street, Ibstock.

MR. H. DENSTON ROBERTS, formerly of Southampton, has taken over the pharmacy of Mr. H. Huggins, 604 King's Road, Fulham, London, S.W.6.

MR. A. S. ROLLIN, chemist and druggist, formerly of Southport, has purchased the business of Mr. S. Y. Spouncer, chemist and druggist, 40 Sutton Road, Southend-on-Sea.

COTY (ENGLAND), LTD., is shortly to open a wholesale showroom at Walmar House, 298 Regent Street, London, W.1. The general manager is Mr. C. C. Valli, chemist-perfumer, whose father was a member of the drug trade in London for many years. [Corrected note.]

MR. JOHN MURDOCH (John Murdoch & Co., 7 Union Court, Old Broad Street, London, E.C.2) has decided to retire from business from March 31, 1924. The London representation of the company's clients in South Africa, Australia and New Zealand will be taken over by Fowlie & Boden, Ltd., 29 City Road, London, E.C.1. For the present, the accounts will be kept distinct from their business under the style of Fowlie & Boden, Ltd. (John Murdoch department). The London agency of Petersen, Ltd., Cape Town, Johannesburg and Bloemfontein, which was held by John Murdoch & Co., has been taken over by Grimwade, Ridley & Co., St. John's House, Minories, London, E.1.

Information Department

INFORMATION WANTED

Postal or telephone information with respect to makers or first-hand suppliers of the undermentioned articles will be appreciated:

F/263. "Ansonia" Disinfectant	B/215. Mexican Asthma Remedy
II/163. Camplin's Veterinary Embrocation	B/263.—Oil of Hector
E/253. Conc. Chedinol	F/123. "O.K." brand absorbent cotton-wool
M/263. Dupont's ether	L/193. Radiospray disinfectant
E/253. Gowland's Lotion (Offer & Martin's address)	E/263. Stent's Complexion Wax.
A/253.—Liq. Papain et Iridin (Seymour)	B/153. 350 Tablets (for Rheumatism)
H/183. "Loupidine" (for ailments in sheep)	E/263. Vermoil
	C/253. Zenkol (for colds)

INFORMATION SUPPLIED

Borthwick's Winter Cream. S/133	Kinetine Tablets. S/193
"Cornflower" Corn Silk B/183	"Newmatic" hair brush. B/183
Creme Vivienne. A/173	Promonta. B/173
Cremola for the hair. A/173	Silk paper handkerchiefs. E/183
Cryogenine. B/193	Stokes' tablet machines. P/183
Electra veterinary preparation. B/183	Uradium. E/153
	Vitoium. W/173

Observations and Reflections

By Xrayser II.

"What can I do for Pharmacy?"

asked Mr. Sutcliffe at Bradford; and though he seems to have put the question chiefly with reference to what one could do for the Pharmaceutical Society, he did not answer it entirely from that point of view, but spoke wisely and eloquently of what every pharmacist can do to advance pharmacy itself in public estimation and usefulness simply by his personal conduct in the practice of his calling. He did, however, give the greatest prominence to the narrower view, and his main object evidently was to further the Society's interests and enlist the services of his hearers on its behalf. This is, of course, precisely what every member and well-wisher of the Society ought to do, and Mr. Sutcliffe did it admirably. No fault can be found with anything he said, and his tone throughout was as persuasive as his matter was sound. But one thing, I venture to say, was lacking, as it almost always is in the addresses on this subject from amiable gentlemen like Mr. Sutcliffe. There was no hint in the whole of his address of the legitimate, and I may say the necessary, function of criticism. It does not seem to have occurred to him that it may be as salutary and so helpful, however drastic, as any of the services he mentioned. To let one's intelligence play freely round all the Society's affairs and activities, to point out what one thinks its mistakes, to analyse its projects, to warn, correct, or even condemn when one is honestly moved to do so, is not an entirely grateful task (the critic has no friends); but it is a very useful one, and one that demands more from a man than the payment of a subscription. I suggest this as a supplement to Mr. Sutcliffe's address, to all those members of the Society who were stirred by his eloquence.

Remuneration,

said Mr. Humphrey, at Ealing, is not synonymous with payment; but the distinction, if there is one, is of no practical importance; the words are often used synonymously, and in many of their applications really are synonymous, which is as much as can be said of most synonyms. Certainly we gain nothing by making such a distinction as Mr. Humphrey suggests. We have no claim to be "rewarded" (in the usual narrow sense) for Insurance work, and if that is what "remuneration" implies we had better drop the word altogether. Only pay us properly, and for remuneration we will be content with the assurance of our own consciences that we have well earned our pay. Perhaps this is what Mr. Humphrey meant. He certainly spoke well with regard to payment. The sixpenny fee, to which I am glad to see he says the R.P.U. is committed as a minimum, is now only two-thirds of what we ought to demand if our demand for it in 1916 was well-founded, as no doubt it was.

Mr. Guyer

chose a fascinating subject for his address at Edinburgh, and it must have been a most interesting one to listen to; but he gave a very wide meaning to the word folk-lore, which properly, as Andrew Lang says, relates only to the legends, customs and beliefs of the "folk," or people. The doctrine of signatures only comes under this head as a survival of an old scientific theory now exploded but still lingering in a few out-of-the-way places, and even there not of native growth. The popular names of plants, again, do not necessarily come under this head, and one, at least, of those mentioned by Mr. Guyer does not. Forget-me-not is a name that has been given at various times to many different flowers, to some, doubtless, by the "folk," but its application to *Myosotis palustris* is said to be due to a German botanist, and none of the legends by which it is explained is of folk-origin. The folk-names of this plant were mouse-ear and scorpion-grass. The folk-names of plants are almost always due to some peculiarity in their growth or habit, or some fancied

property. They are not often, I should say, what can properly be called poetical. Often they are coarse enough, as in "cowslip," and the names popularly given to the meadow orchis and arum maculatum. Our "liberal shepherds" were not often poets, and this makes the attribution of "daisy" to the folk suspect. It occurs before Chaucer, but its popularity probably dates from him.

Foxes' Lungs,

concerning which you had a note in your last week's issue in your answers to correspondents, was official with us at one time; but the official preparation was not a syrup but a lohock or linctus, which was of a consistency between that of a syrup and that of an electuary. According to Culpeper, the word "Lohoch" is from the Arabic. The Greek name for these preparations was *ecligmata*. There were several of them—all, I believe, of foreign origin—in the early Pharmacopoeias both of London and Edinburgh; but they were soon dropped, and indeed they must have been rather messy things. It was customary to take them by means of a liquorice stick bruised at the end, on which they were conveyed to the mouth, where they were retained until absorbed "of their own accord." The formula of the lohoch è pulmone vulpis included prepared fox's lung, juice of liquorice, maidenhair, aniseed, sweet fennel seeds (equal parts), and sugar dissolved in coltsfoot and scabious water. It was founded on a recipe of Mesue's, who, however, prescribed honey instead of sugar. Culpeper, as a master of course, abused "the Colledge" for the change. Quincy omits the preparation altogether and speaks contemptuously of foxes' lungs, which seem, he says, "to have been introduced into medicine from no better grounds than the imaginary efficacy similar parts have over each other." Syr. rhœados is commonly sold as a substitute for the syrup in some parts of the country. [And oxymel scillæ in others.—EDITOR.]

"Pharmacian"

is older than 1790 by at least seventy years. It is formed from the late Latin "pharmacia," and was no doubt influenced by the French "pharmacien," but it never "caught on," though I have known it used once (or was it the French form?) in defiance of the Society. "Pharmacist," I must confess, seems to me preferable, being more in accordance with English usage. For every instance of similar formations to "pharmacist" in our language I should say that a dozen in "ist" might be adduced; and as "pharmacist" is already in possession and becoming better established every day, I see no advantage to be gained by the change proposed. It is indeed strange that it was so late in appearing, especially since "pharmacize" (words in "-ist" are often accompanied by others in "-ize") was in use before it, but the vagaries of speech are often unaccountable. Language, however, like wisdom, is justified of its children. "Pharmacist" has survived and "pharmacian" has not; that is enough.

Penids,

I said in a recent note on *trochisci behici albi*, were a particular kind of barley sugar; but there is more of interest in them than that. The official penid, *saccharum penidium*, was prepared from fine sugar and white of egg, boiled and clarified, rolled on a slab in almond oil, and drawn out into any desired length. It was used in several of the conserves and sugars, gave its name to *diapenicon*, and appeared as late as 1735 in the *saccharum hordeatum*, seu *penidiatum* of the Edinburgh Pharmacopoeia. The name first appears in late Greek as *penidion*, which is glossed as *spuma sacchari* in old medical books, and still survives in a recognisable form in the "penuts" of our sweet-shops, which are thus seen to derive from Arabian pharmacy. The "purging sugar-plumbs" of our old dispensaries, composed of penids and resin of scammony, were indeed "rough physic for tender children," but they had a respectable ancestry, and similar preparations of unknown composition were largely advertised and very popular.

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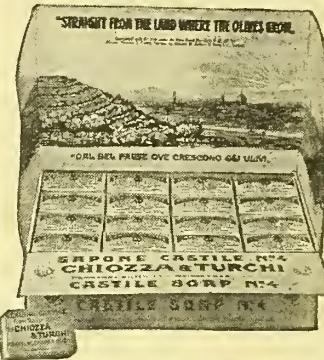
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Editorial Articles

"Dangerous" Drugs in Ireland

THE House of Commons of Northern Ireland is considering a bill to amend the Dangerous Drugs Act, 1920, and Section 2 of the Sale of Poisons (Ireland) Act, 1870. The bill, which corresponds to the Dangerous Drugs and Poisons (Amendment) Act, 1923, of the British Parliament, was introduced on March 17 and read a second time on March 19. The Committee stage came on on March 20, and there were protests at the way the bill was being rushed through without time being given for consideration. The differences shown in the Irish bill from the Dangerous Drugs and Poisons (Amendment) Act, 1923, are interesting. For example, the much-criticised provision in the British Act that makes it an offence against the Act to do anything that is a contravention of the law in any other country is absent from the Irish bill, the reason being that the Parliament of Northern Ireland has no power to deal with international matters. Clause 4 of the bill contains the provisions of the British Act as to written orders for "dangerous" drugs from medical practitioners, dentists and veterinary surgeons, Section 2 of the Sale of Poisons (Ireland) Act, 1870, being quoted in place of Section 17 of the Pharmacy Act, 1868, this being the corresponding section of the Irish Act. The wording of the clauses are the same, with the exception of the references to the different Act. The Irish bill does not contain a clause corresponding to Section 5 of the British Act, which provides for the calculation as a percentage of something that is not a percentage. Whether this is one of the weighty matters upon which the Northern Ireland Parliament cannot legislate or whether it is due to an appreciation by Irish wit, of the absurdity

of providing in an Act of Parliament that two and two shall make five, we do not know. When the Attorney-General introduced the bill he did not mention this point. The only other speech on the introduction of the bill was by Dr. Morrison, and this was interesting to us chiefly by reason of its irrelevancy. The following is an example:—

There is another drug, which is called glyco-heroin. It is an excellent thing for the relief of a cough, but it contains a large portion of morphia. Anyone can go into a druggist's shop and buy that stuff. One time a friend of mine suffered from a bad cold and I gave him a little glyco-heroin. And what did I find? He went to a druggist's shop and got it for himself and for his family when they were suffering from a cough or cold—a dangerous drug sold over the counter as you would sell any ordinary drug and handed into family use without an ordinary prescription or other medical directions. That shows you how dangerous it is and how under the present law it is possible to get proprietary remedies such as glyco-heroin and preparations of cocaine. They can be bought, and I can easily understand how it might be possible for a druggist or a person of the meaner sort desirous of making money to sell cough mixtures and medicines for the relief of pain, and how the drug habit would be produced, with the dangerous results that would follow to the community. This bill will enable the Government in case an eventuality like that arises to deal with it. It will prevent the indiscriminate selling of those drugs to people without a proper medical prescription, and is a good and wholesome and necessary thing for the State.

As a matter of fact, glyco-heroin is outside the Dangerous Drugs Acts, and does not contain morphine. The doctor's chief concern seems to be that a person can obtain a cough mixture without the intervention of the doctor. Glyco-heroin is good enough for the doctor to prescribe but too good for the patient if he does not pay a fee for having it prescribed for him. As we have pointed out before, Parliaments are poorly equipped for dealing with legislation on technical matters, and the Parliament of Northern Ireland appears to be no exception to the rule.

The Benevolent Fund Benefits

THE correspondence that has been appearing in our columns during the past few weeks under the heading, "Profits on Advertised Proprietaries," incidentally evoked an offer from one writer, "R. H. B.," to contribute £5 to the Pharmaceutical Society's Benevolent Fund if another controversialist, "Proved," tested and remained satisfied with his "theory" as to the relative merits of advertised and unadvertised proprietaries. In our issue of March 22, "Proved" re-entered the fray with a letter to the effect that he had often tested the "theory" in question during the past thirty years. We have since received and forwarded to the Pharmaceutical Society, for addition to the Benevolent Fund, a cheque from "R. H. B." for £5; our correspondent, however, encloses with his *amende honorable* the following comment:—

"Relying to 'Proved,' I ask for a modern test—conditions in the trade have altered tremendously in the last thirty years. Boots stopped substitution several years ago; they sensed the public's appreciation of branded goods, and they themselves are busy branding and advertising, as also are Ucal; and doubtless other friends of 'Proved' will follow suit sooner or later, when they discover the true economics of selling. I await 'Proved's' decision on his modern test, but at the same time am enclosing cheque for £5. . . ."

In whatever direction the merits of the controversy may lie, our readers will agree with us in admiring the sportsmanlike spirit that has prompted the sending of the cheque—an action that may possibly suggest a new way of raising money for the Benevolent Fund.

Westminster Wisdom

By the "C. & D." Parliamentary Representative,

INDIAN OPIUM

In reply to a question in the House of Commons, on March 24, the Under-Secretary of State for India stated that the only opium shipped from India to Hong Kong and the Straits Settlements is that indented for by their respective Governments, which for 1923 amounted for Hong Kong to 240 and for the Straits Settlements to 2,100 chests of 140 lb. each. Moreover, all of it was covered by certificates from the Governments of the importing countries, in the form prescribed by the League of Nations to the effect that the opium was required for legitimate purposes and its importation approved. Opium so consigned to the Governments of these Colonies cannot be smuggled into China before it has reached the Colonies.

SPRIT FOR PERFUMERY

Mr. Lorimer asked the Chancellor of the Exchequer, on March 20, (1) if he will grant a rebate on alcohol used in the manufacture of perfumery and toilet preparations equal to that which is to-day conceded to the manufacture of drugs; (2) if he will revert to the practice in operation from 1902 to 1915, when spirits used by druggists and manufacturers of perfumes and toilet preparations were levied at the same rate—namely, 14s. 9d. per proof gallon, whereas the latter is now charged 74s. per proof gallon while the druggist is charged at the same rate as in 1902?

Mr. Snowden replied that as regards the first question he was unable to anticipate the Budget statement. As regards the second, he said "the member is under a misapprehension in stating that spirits used in the manufacture of medicines are dutied at the present time at the same rate as in 1902. The duty of 14s. 9d. per gallon now applicable to spirits used in medical preparations operated from 1910, and that increase in duty was applied to spirits of all kinds."

Mr. Lorimer: Why was any differentiation made?

Mr. Snowden: There are very strong reasons for it of an administrative character. It is, he understood, much easier to evade the revenue when spirits are used for perfumery purposes than for medicinal purposes.

NATIONAL HEALTH INSURANCE BILL

The Minister of Health, on March 24, introduced the National Health Insurance (Cost of Medical Benefit) Bill, which is "to make further provision with respect to the cost of medical benefit and to the expenses of the administration of benefits under the Acts relating to National Health Insurance, and to amend Section 29 of the National Health Insurance Act, 1918; and for purposes connected therewith." The scope of the measure is explained by the memorandum attached to the Bill. This states that the total annual cost of medical benefit in England from January 1, 1924, including doctors' capitation fee, cost of drugs, doctors' travelling allowances, and certain other minor items will be 11s. 10½d. per insured person, towards which there is provided from funds of the approved societies a sum per insured person per annum of 9s. 6d. Under the Bill the balance of 2s. 4½d. is to be found for the three years 1924-26 from the following sources: (a) Out of the funds of approved societies, etc., 2d.; (b) out of moneys in the central fund derived from the unclaimed balance of sums received from the sale of National Health Insurance stamps, 1s. 8½d.; and (c) out of the interest earned on the proportion of Insurance funds retained in the National Health Insurance Fund (Investment) Account beyond the prescribed rate (4½ per cent.) credited on moneys standing in that account, 6d. The total amount to be provided in each year for the whole of Great Britain from the various sources (including the statutory grant of two-ninths from the Exchequer) is £1,762,000.

M. DECRAMER, ex-president of the Pharmacists' Association of the Nord department, has been nominated Chevalier of the Legion of Honour for military services.

Pharmaceutical Society of Great Britain Evening Meeting in Edinburgh

THE fourth evening meeting of the session was held at 36 York Place, Edinburgh, on March 21, Mr. Anthony McMillan (Chairman of the Executive) presiding. The following communications were read:—

Opium Powder. Loss of Morphine on Keeping (II)
By D. B. Dott, Ph.C., F.I.C., F.R.S.E.

[ABSTRACT]

The note is a continuation of a previous paper (*C. & D.*, I, 1923, 381). The author gave details of his examinations, showing the monthly variations of the percentage of morphine over a year. In his conclusions he stated that it is fairly evident that an average Turkey opium, in the form of dry powder, undergoes no appreciable deterioration in the course of a year. The varying results are due to defects more or less inherent in the method. An improved method of assay is a desideratum, which it is hoped may be supplied before the publication of the next *Pharmacopœia*. Closer results are obtained by different operators when testing the tincture, indicating that probably the preliminary preparation of a spirit solution of the opium is desirable. Spirit of proof strength extracts the opium better than the weak spirit. The opium might either be completely extracted, or a weighed portion of the total known weight of spirit solution evaporated and treated as in the assay of tincture. With regard to the temperature of desiccation, the author said the temperature of desiccation seems to make no difference to the keeping properties as regards morphine content. The colour of the opium dried at the higher temperature is distinctly darker, and the odour decidedly less, than in the case of the drug dried at 60°. As to most people the odour of opium is somewhat nauseous, it is probably preferable to dry at 100° C.

Assay of Nux Vomica Extract

By D. B. Dott, Ph.C., F.I.C., F.R.S.E.

When the strychnine content is determined by the official method, the results are generally distinctly higher if the sodium carbonate is replaced by sodium hydroxide. The more obvious explanation of the difference, that there is more complete separation of the chloroform when caustic soda is used, seems to be inadmissible; as when extra chloroform is employed and any emulsified mixture strained and separated, the results are still discrepant. It is theoretically possible that the carbonate precipitates a salt of strychnine which is not readily dissolved by chloroform, but which is decomposed by the hydroxide, rendering the alkaloid free to dissolve. Whether the explanation is physical or chemical, it is important that so powerful an alkaloid should not be underestimated. It seems fairly certain that in the assay of all the nux-vomica preparations caustic soda should be used in preference to carbonate.

DISCUSSION

Mr. RUTHERFORD HILL said a communication by Dr. Watt last session, in which he gave an analysis of a sample of Turkey opium at least seventy years old, indicated that even in a prolonged period there was no substantial loss of morphine in Turkey opium. In regard to the second note on the difference between the results prescription containing liquor strychniae hyd. and sodium hydroxide in place of sodium carbonate, recently a chemist pointed out to a medical practitioner that a prescription containing liquor strychniae hyd. and sodium bicarbonate was a dangerous incompatibility. The prescriber maintained that there would be no precipitation. On experiment it was found that apparently sodium bicarbonate in the proportion prescribed did not precipitate the strychnine. It looked as if an alkaloidal bicarbonate which was soluble was formed. He thought Mr. Dott did not agree that sodium bicarbonate would not precipitate the strychnine. Possibly it would be precipitated on standing.

The CHAIRMAN said recently a wholesale chemist had mentioned that sometimes with a stock of powdered opium when they reached the bottom of the tin they found the powder mouldy. Had Mr. Dott any experience of such an occurrence?

Mr. DOTT said the possibility of such a thing would be an argument in favour of drying the powder at 100° C. With regard to the precipitation of strychnine from solution by sodium bicarbonate, he could not confirm the suggestion that precipitation did not take place. With strychnine nitrate he found at the end of an hour on filtering that practically 20 per cent. of the strychnine had been precipitated. The clear filtrate on standing soon began to throw down a further precipitate, and the process continued for some time. Ordinary sodium bicarbonate was used which might possibly contain some carbonate.

Dr. ELLIS then proceeded with his address on:—

Ferments and Ferment Action

By DAVID ELLIS, Ph.D., D.Sc., F.R.S.E.

Dr. Ellis said his purpose was to deal with the subject of ferments and ferment action from the point of view of general interest without going deeply into points of detail, as to which there had been considerable controversy. After dealing with a few historical points, Dr. Ellis said ferments are analogous to metallic catalysts in their general action. A pure ferment was still unknown, and it was uncertain whether ferments were albuminoid. All exothermic processes were initiated by living matter, and it was suggested that every process in the living cell is due to a ferment, whether it has been discovered or not. The best temperature for fermentative action lay between 30° C. and 50° C. Some ferments acted in acid solution, some in neutral and some in alkaline. The activity of a ferment was diminished by the products formed. Ferments might be classified as (1) those changing starch to sugar, (2) those reducing higher sugars to lower sugars, (3) those decomposing glucosides into glucose, (4) the proteolytic group decomposing proteins, (5) clotting ferments like rennet, (6) those decomposing oils and fats, and (7) oxidases. The ferment diastase was greatly used in industrial processes, for example, in laundries and by the calico printer. The ferment action par excellence was the use of yeast in the production of alcohol. An example of the action of an oxidase in producing a commercial article was that of lac in Southern Asia from the latex of a species of *Rhus*. This, as was well known, was the basis of the process known as lacquering.

A HUMOROUS PLEA

Dr. STEWART MACDOUGALL, in moving a vote of thanks to Dr. Ellis, said the interesting side of the address to him was its indication of the trend in biological and zoological science in the direction of physiology. The morphologist had for long occupied the field, but this aliveness on the physiological side was easy to see.

The next communication was a

Note on a Specimen of Curaçoa Aloes

By J. RUTHERFORD HILL, Ph.C.

This specimen has been forwarded by T. & H. Smith, Ltd. On opening a box of aloes of the usual size containing about 120 lb. of Curaçoa aloes there was found embedded in the aloes this gourd, which is also full of aloes. It had the appearance of having been in the box and that the aloes had been poured on top of it and allowed to solidify. The British Pharmaceutical Codex says formerly gourds of various sizes were used, but aloes in gourds is now seldom seen. The specimen found by T. & H. Smith appears to be the fruit of the Calabash tree, *Crescentia Cujete*. The aloes contained in the calabash or gourd differs in appearance from that in the box in which it was found. It has a glassy, almost transparent appearance suggestive either of inferior quality or more recent preparation. The dull-covered opaque aloes in the box is regarded as of better quality. The description of the gourd aloes does not quite fit in with any of the records and would appear to be exceptional.

Trade Report

The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers receive the goods into stock, after which much expense may be incurred in garbling, packing, etc. Qualities of chemicals, drugs, essential and fixed oils, and many other commodities vary greatly, and higher prices than those here quoted are charged for selected qualities of natural products even in bulk quantities.

42 Cannon Street, E.C.4, March 27.

THE end of the quarter finds business poor in many directions, and there is little inclination to do much in view of the disquieting labour outlook, while another influence restricting activity is the position arising out of too rapid recovery in the French franc, the outcome of which is still regarded with considerable uneasiness. Among crude drugs there are no outstanding changes, the interest centring in the auction. Privately star anise oil is in a little better demand for the Continent, which also seems to absorb all the shipments of Japanese mint oil when they arrive. Menthol is the turn easier on the spot, but without any activity. Attempts are being made to advance lemon oil at the source, on the grounds of short crop. Medium and lower qualities of asafetida have been in better demand. White Muntok pepper has been active and dearer, both on spot and for forward shipment. Calicut ginger continues scarce and higher prices are asked; nutmegs and mace are firm and dearer, while Zanzibar cloves are easy. Shellac has been inactive. Mercury has had a further sharp advance, and a substantial rise is contemplated in mercurial salts. In pharmaceutical chemicals business is quite limited, but the general tone is steady. Acetanilide is rather easier; aspirin is irregular, with a weaker tendency, and ammonium bromide is strong. Calcium lactate is rather cheaper from makers; guaiacol carbonate is firmer inclined, and phenazone may harden in view of the high prices asked from the Continent. Sulphonal is rather lower, and salicylic acid is unsettled. Among industrial chemicals, the poor state of business already commented on is still in full evidence. Prices which spot holders ask are generally below replacement costs.

Higher	Firmer	Easier	Lower
Chrysarobiu Cuttlefish bone Hemp seed Mace Mercurials Mercury Nutmegs Pepper Pyridin Wax, Bees', Jam. Wax, paraffin and scale	Anise (star) oil Guaiacol carb. Lemongrass oil (Cochin)	Acetanilide Aspirin Cinnamon leaf oil, c.i.f. (Cey.) Cod-liver oil Dill seed Ground nut oil Hexamine Linseed oil Platinum Rape oil Soya oil	Calcium lactate Cassia fistula Coconut oils Palm oil Palm kernel oil Pitch Sulphonal

Cablegrams

NEW YORK, March 26.—Business is fair. Copalbalm has advanced to 31c. per lb., and mercury to \$67.00 per bottle. Cartagena ipecacuanha is lower at \$1.90, and jalap has been reduced to 31c. Burdock root is also cheaper at 16½c., and balsam tolu has been lowered to \$1.70. Peru balsam has declined to \$1.85, Canada balsam to \$12.50, and Oregon balsam of fir to \$1.35 per U.S. gallon.

BERGEN, March 26.—The total catch of cod for the whole of Norway since the opening of the season amounts to 16,800,000, against 24,200,000 for the corresponding week of last year, and the yield of steam-refined medicinal oil is 37,200 hectolitres, against 49,300 hectolitres last year. Finest new non-freezing medicinal oil is quoted at 112s. per barrel c.i.f. principal U.K. ports.

Exchange Rates on London

The following is a list of Continental and other exchange rates against the pound sterling on London prevailing at 4 p.m. on Wednesday :-

Place	Method of Quoting	Par of Exchange	March 19	March 26
Amsterdam	Fl. to £	12.107	11.571—11.58½	11.611—11.62
Berlin ..	M to £	20.43	18½—19½ billions*	18½—19½ billions*
Brussels ..	Fr. to £	25.22½	103½—103½	100½—100½
Calcutta ..	Per rup.	24d.	16½d.—16d.	16½d.—16½d.
Christiania ..	Kr. to £	18.159	31.47—31.52	31.43—31.48
Constantinople ..	Pst. to £	110	820—835	830—845
Greece ..	Dr. to £	25.22½	258—263	252—256
Italy ..	Lire to £	25.22½	99½—99½	99½—99½
Kobe ..	Per yen	24.58½	23½d.—23½d.	23½d.—23½d.
Lisbon ..	Escu	53d.	1½d.—1½d.	1½d.—1½d.
Madrid ..	Pts. to £	25.22½	33.20—33.25	32.90—32.95
Montreal ..	\$ to £	4.86½	4.42—4.42½	4.40½—4.40½
New York ..	\$ to £	4.86½	4.29½—4.29½	4.29½—4.29½
Paris ..	Fr. to £	25.22½	84.40—84.50	79.40—79.50
Singapore ..	Per dol.	—	28½d.—28½d.	28½d.—28½d.
Switzerland ..	Fr. to £	25.22½	24.83—24.86	24.83—24.85
Vienna ..	Kr. to £	24.02	303,000—307,000	304,000—307,000

* Nominal.

Revue des Marchés

Sommaire des principaux mouvements des prix des drogues, essences, produits chimiques et pharmaceutiques sur le marché de Londres.

Abréviations d'usage employées pour indiquer les mesures de poids et de capacité:—Ton = 1016 kg.; Cwt.=50,8 kg.; lb.=453 gr.; oz.=28,34 gr.; Gal.=4546 c.c.

PENDANT la semaine qui vient de s'écouler le marché des drogues et des produits chimiques a été très calme. En drogues, la demande pour l'asa foetida s'est accentuée. L'essence de badiane est recherchée pour l'exportation. En poivre blanc (Muntok), on constate une demande très active, surtout pour l'exportation, à des prix en hausse, tant pour le livrable que pour le disponible. L'opium est en tendance faible. On signale une forte avance dans les derniers prix cotés par les exportateurs français de drogues, qui serait imputable à la hausse du franc. Cependant, sur le marché de Londres les cours des drogues de provenance française restent inchangés. Le mercure a de nouveau subi une avance sensible, soit d'environ £2 la potiche, au cours de la semaine. Peu d'affaires en produits pharmaceutiques; l'acétanilide est moins ferme, le lactate de calcium est en baisse; par contre, le cours de l'acide acétylsalicylique est assez variable.

Zum Marktbericht

Überblick über die wichtigsten Preisveränderungen auf dem Londoner Drogen- und Chemikalienmarkt.

Akkürzungen:—Ton=1016 kg.; Cwt.=50,8 kg.; lb.=453 g.; oz.=28,34 g.; Gal.=4546 ccm.

DER Drogen- und Chemikalienmarkt lag während der verflossenen Woche außerordentlich ruhig. In Drogen wurde A sa foet ida stärker gesucht; Sternanisöl war besonders für den Export stärker begehrt. In Gewürzen wurde weißer Muntok-Pfeffer weiter lebhaft gehandelt, wobei grössere Abschlüsse für den Export gemacht wurden; die Preise sowohl für Loko wie für Abladungsware lauteten jedoch höher. Der Preis für Quecksilber ist weiter gestiegen, und zwar um etwa £2 die Flasche im Laufe der Woche. In pharmazeutischen Chemikalien waren die Umsätze gering; der Preis für Antifebrin neigte nach unten, Calciumlactat war billiger angeboten, und Acetylsalicylsäure verkehrte unregelmässig. Schwere chemikalien waren vernachlässigt.

Crude Drugs, etc.

ANTIMONY.—There is certainly no giving way in prices, while the scarcity of supplies continues so pronounced. English high-purity refined stands at about £65 per ton, and Chinese regulus is strongly held, with holders of spot lots asking about £60.

ASAFETIDA has been in better demand lately for the medium and lower qualities, and a fair business has been done, chiefly in the medium and lower qualities, at from 70s. to 110s. per cwt.; B.P. tear is unobtainable in this market.

BISMUTH.—Supplies of metal from Bolivia are coming forward regularly, but find a steady demand, and the price is maintained at 10s. per lb.

CAMPHOR (REFINED).—Japanese slabs remain dull of sale at 3s. 4d. per lb. on the spot; and for March-April shipment, 3s. 1d. c.i.f. is quoted.

CHAULMOOGRA OIL.—The price quoted for genuine *Tarakanos Kurzii* to arrive is 2s. 11d. per lb. c.i.f., not 2s. 3d. c.i.f. as quoted last week, this being the price quoted for *Hydnocarpus Wightiana*. Private advices are to the effect that supplies of genuine seed are realising very high prices, owing to the limited quantity on offer, so that rates are likely to go still higher.

CLOVES.—Zanzibar continue slow at from 1s. 1d. to 1s. 1½d. per lb. on the spot as to quality. To arrive, the value of March-May shipment is 1s. 0½d. per lb., c.i.f. The weekly wharf statistics show 1,135 bales landed and 384 delivered, leaving a stock of 41,168 bales, against 1,392 bales in 1923 and 13,484 bales in 1922.

COD-LIVER OIL.—Our Bergen correspondent writes, on March 22, that the catch again last week was very limited. The total output of all the Norwegian fisheries, compared with that of previous years, is as follows:—

	Catch of cod.	Steam refined cod liver oil.	Livers for crude oils.
To Mar. 15, 1924 ..	12,900,000	29,078 hectol.	4,800 hectol.
" 17, 1923 ..	19,200,000	39,551 "	6,300 "
" 18, 1922 ..	15,100,000	29,800 "	4,300 "
" 19, 1921 ..	17,700,000	32,000 "	5,100 "
" 20, 1920 ..	12,900,000	20,200 "	2,100 "

Our cable indicates a quiet market at slightly easier prices. The spot value for new Lofoten oil is about 11s. per barrel.

GALLS are steady, Persian blue offering at 50s., green at 45s., and white at 42s. 6d. per cwt. on the spot. They cannot be replaced at these prices; in fact, Persian advices report that they can get better prices for whites locally from the tanning factories.

GINGER.—Calicut continues scarce, with sales recently at 110s. per cwt., with further sellers asking 125s. Washed rough Cochin is quoted at 95s. Jamaica has sold more freely; small is 170s., and bold 190s. upwards. Japan is quoted at 100s. per cwt., and January-March shipment 85s. c.i.f.

MAGNESIUM.—English makers are selling at from about 3s. 3d. to 4s. per lb. for sticks, and the market is very firm thereat, while there has been very little obtainable for some time past from the Continent, whence purchases cannot be secured at 4s., and even more is asked. Powder varies from 4s. 6d. to 5s. 6d. per lb.

MENTHOL is the turn easier on spot, Kobayashi-Suzuki offering at 59s. 6d. per lb., less 2½ per cent., and five-case lots at 59s. Sellers of March-April shipment quote 55s. per lb. net. c.i.f.

MENTHOL (SYNTHETIC) is quoted at 26s. per lb. for quantity, and up to 35s. per lb. for small lots. It is in regular demand, both for home and export, and a considerable amount of interest continues to be shown in the product.

MERCURY.—The further successive sharp advances noted have been well in line with the views which were contained in our previous issue, the tone continuing strong. After standing at the close of last week at £11 10s. to £12 per bottle, and a further rise on Monday this week, the market advanced repeatedly on Tuesday, when at first small lots might have been secured at £12; but later in the day sellers were asking £12 15s. to £13 after business had been done at £12 10s. and upward. On Wednesday, £13 was paid and £13 15s. quoted at the close. There is very little offering, and Spanish metal is especially scarce here.

NUTMEGS are very firm and dearer. Singapore and Penang 80's being offered at 2s. 4d. per lb.; demand is principally for export. Mace is also dearer, fair to good bright selling at 3s. 3d. to 3s. 6d. per lb., and common pickings at from 2s. 6d. to 2s. 9d.

OPIUM is slow of sale on the spot, the quotation for usual Turkey druggists' quality being from about 2s. 7d. to 2s. 8d. per unit.

CONSTANTINOPLE, March 18.—" During the period March 4 to date arrivals were as follows: Druggists', 1,547; 'softs,' 111; and Malatia, 107 cases. The stocks amounted to: Druggists', 243; 'softs,' 38; and Malatia, 9 cases. Since our last report only 30 cases druggists' have been sold, at £T32-34

per oke. In spite of the absence of actual purchasers, holders of stocks maintain their prices and are not discouraged, alleging that the snow and severe frosts have caused considerable damage to the sowings in certain agricultural districts. However, we do not quite share this view. The purchaser for Japan still retains his stock, without making new purchases. We are informed that a new transaction with Japan has been concluded, which is still being kept secret. Insignificant deals are reported from Smyrna and Salonica."

The March issue of the monthly trade Journal of the British Chamber of Commerce of Turkey and the Balkan States publishes the following statement:—

" U.K. buyers will not pay prices asked by holders in Constantinople, and with the Continent, also, business is rather difficult. With the new restrictions that have come into force in Germany, and which will also become law in Switzerland shortly, the demand from the Continent will be considerably curtailed. Closing prices for druggists' were about £T33½-34½, and for 'soft' £T39-41. A large shipment of opium was made this month to Japan, and it is reported that this country is out to buy further quantities. If this report is correct then prices here will in all probability keep very firm, if not advance, for the available stock in Turkey to-day does not exceed 450 cases."

The Imperial Ottoman Bank, in the course of its monthly Circular, states that: "The crop, which begins in July and lasts a whole year, produced about 3,000 cases of 50-60 okes, in 1922-1923, against 6 to 10,000 cases before the war. Purchases made by Japan caused the price of opium to rise to a level never attained hitherto. Owing to the ever-increasing demand from that country, the market remains very firm, so much the more as the present stocks, which are relatively of small importance, are held by two or three merchants. Information concerning the coming crop is contradictory and, at the least, premature."

PEPPER.—Black Singapore is firm at 5d. per lb. on the spot, and for March-May and April-June shipments 5d. c.i.f. London has been paid for f.a.q. Lampung is 5d. spot, and sales to arrive include August-October shipment at 4½d. c.i.f. d.w.; fair Tellicherry is 5d. spot, and March-May shipment is 47s. c.i.f.; Alleppey is 4½d. spot. White Muntock is strong and dearer, with spot sales at from 7½d. to 8½d. To arrive, sales include March-April at 7½d. to 8½d.; April-June, 8d. to 8½d.; and May-July, 8d. to 8½d. c.i.f. London.

PLATINUM has been easier, business in refined now being possible at about £27 per oz., although supplies are still restricted. Raw metal is called about £25.

RUBBER.—Since our last there has been a partial recovery and a firmer tone has set in the market. Prices, however, have not been very much affected, although it has been difficult to buy any appreciable quantity of standard grades on the spot without giving the market a distinctly better tone. Advices from New York are contradictory, and whilst America is able to purchase so easily from the East, the prospect of higher prices on this market is still very remote. The statistical position continues to improve, and last week there was a further decrease in the stocks of 756 tons. The London stock now stands at 54,530 tons. Quotations (Wednesday, 5 p.m.):—No. 1 standard crêpe and ribbed smoked sheet, spot and March, 1s. 0½d.; April-June, 1s. 0¼d.; July-September, 1s. 0½d.; October-December, 1s. 1d.

SAFFRON.—Prices at the source continue to rise, and fine qualities are being quoted up to 170s. per lb. c.i.f. On the spot, prices range from 155s. to 160s. per lb.

SEEDS.—The seed market is still quiet, with prices unchanged. The following are spot prices:—Spanish ANISE, 75s., and Russian, 62s. 6d. per cwt. CANARY SEED quiet, with sellers asking 28s. 6d. per cwt. for Mazagan. CORIANDER SEED, sound Morocco 40s., wormy 35s.; CUMIN SEED, Malta, 115s., Morocco 112s. 6d.; DILL SEED, 20s. to 21s. 6d.; FENNEL SEED, Indian, 40s. to 42s. 6d.; FENUGREEK SEED, Morocco 23s., and Spanish 19s. 6d.; HEMP SEED, Manchurian, 26s.; LINSEED, Morocco, 27s.; MUSTARD SEED, English, 36s. per cwt.

SHELLAC has had another quiet week, market being easier at 285s. per cwt. for usual standard T.N. orange quality; fine to superfine second orange is 320s. to 380s.; A.C. cakey, 290s.; and G.A.L. 275s. Futures have been inactive, with sellers of May at 277s. 6d. and August at 275s.; to arrive, T.N. for March-April shipment is quoted at 280s. c.i.f.

STARCH PRODUCTS.—Dutch farina is 20s. 10½d. per cwt. on the spot, and to arrive 19s. 10½d. per cwt. f.o.b. is quoted for March-April shipment. American maize starch powder is steady at 18s. 6d. per cwt. on the spot, and Dutch is 21s. Dextrin is 25s. for superior Dutch and 24s. for No. 2 on the spot. American canary is 22s. and white 21s. 9d. on the spot. Best rice starch crystals offer at 40s. for English, 33s. 6d. per cwt. for Continental, and 21s. for American on the spot.

WAX (VEGETABLE).—Japanese on the spot is now very scarce, and 97s. 6d. per cwt. is asked; the price quoted to arrive for June-July shipment is 77s. 3d. c.i.f.

Essential Oils

THERE is a good demand for anise star oil, which shows a further firmer tendency. Cochin lemongrass oil is dearer, and Ceylon cinnamon leaf is a shade easier to arrive. French lavender is in fair demand.

ANISE (STAR).—“Red Ship” has been selling freely at 2s. 4d. to 2s. 4½d. per lb. on the spot. At the close the price is firmer, up to 2s. 6d. being quoted. Sales of parcels afloat have been made at 2s. 4½d. e.i.f. Orders at 2s. 3d. c.i.f. have been cabled out.

BERGAMOT is unchanged for 37 to 39 l.a. at from 16s. to 16s. 6d. per lb.

CAMPHOR.—Chinese white essential is offered on the spot at from 62s. 6d. to 65s. per cwt. Japanese is held for 70s.

CARAWAY.—Dutch double-rectified is quoted on the spot at 36s. 6d. per lb.

CASSIA.—Sales on the spot have been made at 8s. 6d. per lb. for 80 to 85 c.a., and up to 8s. 9d. is quoted. Parcels afloat are offered at 8s. c.i.f. First hands quote 8s. 3d. c.i.f., but there are second-hand sellers at 7s. 9d.

CINNAMON.—Ceylon leaf on the spot is quoted at 6d. per oz., and 5 ½d. c.i.f. to arrive, which is easier. Mysore leaf is 8s. 6d. per lb.

CITRONELLA is unchanged. Ceylon is quiet, with 3s. 6d. per lb. quoted for spot, and 3s. 3d. c.i.f. to arrive. Java oil is 4s. 9d. on the spot.

CLOVE.—English distillers quote at the unchanged rate of 8s. 9d. to 9s. per lb. Lower percentage oil is offered at 8s. 6d.

LAVENDER.—The spot demand for French oil continues fairly active, good quality natural ester 40 per cent. being quoted at from 25s. to 26s. per lb.

LEMON.—The c.i.f. prices are generally as last quoted, but for some brands lower offers are being made. Prices range from about 3s. 5d. to 3s. 7d. per lb. c.i.f. On the spot there are sellers at from 3s. to 3s. 4d. per lb. Fair sales of old crop oil have been made at 2s. 10d.

LEMONGRASS.—Cochin is dearer, with sales of c.i.f. to arrive at 2 ½d. per oz. On the spot, sellers quote 2 ½d. The market is firm.

MANDARIN is quoted at 26s. per lb. on the spot or e.i.f. to arrive.

MINT.—Japanese dementhrolised Kobayashi-Suzuki is quiet on the spot, with supplies scarce. Holders quote 17s. per lb. For shipments afloat, from 15s. 6d. to 15s. 9d. c.i.f. to arrive is wanted. March-May shipment is 15s. 3d. e.i.f.

ORANGE.—Sicilian sweet on the spot is unchanged at from 12s. 6d. to 13s. per lb. Up to 13s. 6d. c.i.f. is quoted to arrive.

PATCHOULI.—Usual Singapore quality is quiet at from 19s. to 19s. 6d. per lb. as to holder and quantity.

PEPPERMINT.—American natural tin oil is quiet and steady at 18s. 6d. per lb. on the spot.

PETITGRAIN.—Paraguayan is quiet at about 9s. to 9s. 3d. per lb.

SPIKE.—Spanish on the spot is not in much demand. For fine quality oil 5s. 3d. per lb. in drums is quoted, but in some directions holders are selling small lots at lower rates.

VETIVERT.—Bourbon is quoted on the spot at 34s. per lb. for small lots.

WORMSEED.—American is quoted at 36s. per lb.

Pharmaceutical Chemicals, etc.

DURING the week under review business has been characterised by the limited volume of individual sales. Another noticeable feature has been the keen competition. Most of this business has been at below replacement costs. The general tone remains quite steady, and the few weak holders offering cheap parcels are not likely to have any permanent effect on the position. In due course it seems under present circumstances spot prices must advance.

ACETANILIDE is rather easier this week, and some dealers are offering spot down to 2s. 8d. to 2s. 9d. per lb. The demand has been poor.

AMIDOPYRIN seems to be of little interest to buyers as offered by dealers in the region of 13s. 6d. per lb.

AMMON. BENZOATE of British and Continental make is offering on spot at about 3s. 6d. to 3s. 9d. per lb., with business restricted.

ASPIRIN.—The spot position is difficult to define at the moment, and some of the leading dealers are not quoting. The price is rather irregular, with a weaker tendency, being in the region of 3s. 5d. to 3s. 6d. per lb., but it is thought that orders could be placed at under this figure.

BARBITONE remains slow in moving off, with dealers quoting unchanged at 15s. to 16s. per lb.

BENZOIC ACID (B.P.).—Very limited supplies are offering on spot, and holders are firm at about 4s. to 4s. 3d. per lb. The supplies available are not nearly sufficient to meet the good demand.

BENZONAPHTHOL is fully maintained at about 6s. per lb., with the market firm and short in supply.

BETANAPHTHOL.—Resulimed is fully maintained at about 3s. 6d. per lb., with supplies limited.

BROMIDES.—Ammonium is the strong item in this section, with not very much available at the moment on spot, quoted at 10d. to 10½d. per lb. Potassium, B.P. crystals and granular, about 8d. per lb. Some lots might be cheaper. Sodium, B.P. crystals and granular, about 8½d. per lb. for good material; cheaper for doubtful stuff.

CALCIUM LACTATE.—Best pure of English make can be had at 1s. 7d. per lb. for quantity, and a fair business has been done.

CHLORAL HYDRATE.—Dealers' quotations remain at about 3s. 9d. per lb. for duty paid, and the limited sales passing are generally at a shade less.

CHYRSAROBIN has been advanced by 2s. per lb., makers quoting 11s. 6d. per lb.

CITRIC ACID (B.P. crystals).—While most quotations are fully 1s. 5½d. to 1s. 6d. per lb., less 5 per cent., it is doubtful whether much business has been done at these figures. There is still some material on spot in hands that appear to be willing to accept something less than these rates. At the same time, the probability is that in due course prices will harden.

CREOSOTE (B.P.).—The spot prices mentioned by dealers is well maintained at 2s. 5d. per lb.

CREOSOTE CARBONATE continues in very slow demand, with the price ranging from 6s. to 6s. 6d. per lb.

GUAIACOL CARBONATE is rather firmer this week, with available stocks limited. Dealers quote from 13s. to 13s. 6d. per lb., and 12s. 6d. for cwt. lots.

HEXAMINE.—The spot position is, so far, maintained at about 3s. 9d. to 3s. 10d. per lb., but there is nothing like a good demand for the supplies on offer.

HYDROQUINONE has again been moderately active, and most sales have been at figures close up to the quoted rate of 3s. 9d. per lb.

MERCURIALS.—In view of the sharp advance in quicksilver, an advance of possibly 9d. per lb. or more is contemplated in mercurial salts, but the amount had not been fixed when we closed for press.

METHYL SALICYLATE.—Dealers' prices are about 2s. 8d. to 2s. 9d. per lb., but it is likely that the sales effected of late have been at slightly cheaper rates for good quantities of B.P.

METHYL SULPHONAL is now offering from limited stocks on spot at about 23s. per lb.

PARAFORMALDEHYDE remains steady on spot, but is in no great demand. Dealers quote at about 3s. 6d. per lb.

PARALDEHYDE.—Dealers are quoting at about 1s. 5d. to 1s. 6d. per lb. The position as regards imported seems firmer.

PHENACETIN.—Spot offers vary and supplies seem rather free. Quotations are round about 6s. 6d. per lb., but some sales of good quantities have been put through at lower figures. The Continental position is firm and at dearer rates.

PHENAZONE.—It will not be surprising if this article moves close up to 8s. per lb. before long on account of the high prices being asked by the Continent. At the moment spot supplies are available at about 7s. 6d. to 7s. 9d. per lb.

PHENOLPHTHALEIN from dealers is available as quoted at 7s. 6d. per lb., and the market tends to harden a little.

POTASSIUM PERMANGANATE (B.P.).—Dealers are offering in drums in good quantities at about 7½d. to 8d. per lb.; slightly more for small lots. A fair business has been done,

POTASSIUM SULPHOGUAIACOLATE continues idle, with dealers' quotations nominal at 6s. 6d. per lb.

RESORCIN from dealers is firm as offered at 6s. per lb. There has been a limited demand.

SALICYLIC ACID.—Prices have been reduced here, and dealers are offering at about 2s. per lb. for B.P., and would possibly accept slightly less for good quantities. Market is

uncertain, and makers quote 2s. 3d. down to 1s. 10d. for ton lots.

SALOL is steadier, and there are very few offers below about 4s. per lb. from dealers to-day.

SODIUM BENZOATE.—Quotations are maintained at 3s. 3d. per lb., but now that supplies are a little better, although still insufficient to meet the demand, the price may ease a little.

SODIUM DIETHYLBARBITURATE meets with no request; prices are nominal at about 20s. per lb.

SODIUM SALICYLATE.—There is a wide margin in prices for both crystals and powder. The former is being maintained at good rates of about 2s. 10d. to 2s. 11d. per lb., while powder is said to be available down to 2s. 7d. to 2s. 8d. per lb. for B.P.

SULPHONAL is mentioned by dealers as low as 16s. per lb., but this cheaper price has not attracted buyers.

TARTARIC ACID (B.P. crystals).—The quotation on spot is 1s. 1d. to 1s. 2d. per lb., less 5 per cent., but it is doubtful if much business for quantities has been done over 1s. 1d. per lb. There is, however, more inquiry, and the market seems to be gradually firming up.

TERPIN HYDRATE continues steady but rather quiet at about 1s. 9d. per lb.

THYMOL is steady on a dull market at 13s. to 13s. 6d. per lb. for white crystals.

VANILLIN (100 per cent.).—Dealers are offering at about 24s. per lb., with not much doing.

Among the chemicals which have paid Key Industry Duty since our last issue are the following:—Butyl alcohol, £1 80s.; cocaine hydrochloride, £259; methyl salicylate, £245; oxalic acid, £345; phenacetin, £214; quinine ethyl carbonate, £760; rhodinol, £224; chemicals undescribed, £3,619.

Industrial Chemicals, etc.

London, March 26.

The poor state of business which we have commented upon during the past few weeks is still in full evidence. In the Northern industrial quarries the position seems almost acute. Prices which spot holders are asking for their supplies are generally below the levels at which fresh importations could be put on the market.

ACETIC ACID.—Dealers holding spot supplies find the demand anything but good; their prices are unchanged. 80 per cent. technical, about £47; 80 per cent. pure, £50 per ton, in barrels: 98 per cent. glacial, about £70 per ton, in glass demijohns, ex wharf, London.

ACETONE continues weak, with little in the way of good sales being made. Quoted at about £105 per ton for B.G.S., in drums.

ARSENIC.—Actual business with the Cornish mines seems to have been very small, and their quoted rate is about level at £62 per ton, f.o.r. Some business has been done between the Continent and America, and this has tended to harden the spot position a little. It is reported that forward offers of Japanese have been made at about £56 to £57, c.i.f.

BARIUM CHLORIDE has met with nothing but occasional small demand, with dealers offering 98 to 100 per cent. at from £14 to £14 5s. per ton.

BLEACHING POWDER remains dull. Dealers are quoting 35 to 37 per cent. chlorine at about £10 10s. per ton, and would probably shade this figure for good sales.

COPPER-SULPHATE has kept very steady, notwithstanding the frequent wide fluctuations in the price of bar copper, and a moderate business has been done lately again for export, the nearest quotation f.o.b. for casks being £25 per ton, less 5 per cent., although some makers ask more.

CREAM OF TARTAR has been selling fairly well in rather limited lots, and dealers' prices are well maintained at 84s. to 85s. per cwt., less 2½ per cent., for 99 to 100 per cent.

EPSOM SALT at last week's cheaper price has been slow in moving off. Dealers quote in the region of £5, or a shade under, in bags, ex stores.

FORMALDEHYDE remains dull, the sales being nothing like the usual volume. Dealers continue to quote at about £62 per ton for 40 per cent.

GLAUBER'S SALT is available on spot, but buyers are hard to locate. Quoted at about £3 15s. to £4 per ton, in bags.

LEAD ACETATE.—Spot is firm at last week's high rates, but the position may ease shortly. Brown, about £46; white, £47 per ton.

LITHOPONE continues to find a fair business, and dealers show no sign of reducing their prices of 30 per cent. Continental red seal from the present level of about £22 10s. per ton.

POTASH CAUSTIC.—The demand has not been good, at about £31 per ton, ex store, for 88 to 92 per cent. solid, in drums. Continental offerings, in some cases, are rather dearer.

POTASSIUM CARBONATE.—The spot market has been patchy as regards business, and prices have varied to some extent.

Some favour the opinion that prices are likely to decline, but offers from most parts of the Continent do not support this view. Spot prices are about the same. 90 to 92 per cent., about £24; 96 to 98 per cent., about £26 9s. per ton.

POTASSIUM CHLORATE.—Dealers offering French are reported to have done a fair forward business at something under the quoted rates of 3d. to 3½d. per lb., according to quantity.

POTASSIUM PERMANGANATE is fully maintained on a steady market at 7½d. per lb. for British commercial. Business continues good.

POTASSIUM PRUSSIATE remains dull. Dealers are still quoting at 8½d. per lb. for yellow of British manufacture.

SAL AMMONIAC.—Dealers are doing business here, but only in small quantities from spot supplies, which are fairly free. Their prices are steady. Dog-tooth crystals, £45; medium, £40; fine white crystals, £27 per ton.

SODA CAUSTIC.—Dealers' prices for shipment and British makers' prices for home consumers on contract are unchanged.

SODA CRYSTALS (carbonate).—British makers continue to quote for home trade only at £5 5s. per ton, in bags, carriage paid to any station in Great Britain.

SODA ASH (ammonia alkali, 58 per cent. light alkali).—British makers' price to domestic consumers on contract is unchanged at £6 15s. per ton, in bags.

SODIUM ACETATE holds firmly, with supplies limited. Dealers quote at about £24 10s. per ton.

SODIUM BICARBONATE from British makers for home trade only is unchanged at £10 10s. per ton, in bags.

SODIUM BICHROMATE continues to be quoted by British makers at 4½d. per lb. for home trade only.

SODIUM HYPOSULPHITE.—Dealers have done a moderate business in pearl crystals close up to £15 per ton, in one-cwt. kgs. Commercial quality, in casks, is about £10 per ton.

SODIUM PRUSSIATE shows no sign of livening up. Dealers continue to offer British at about 5d. per lb.

SODIUM SULPHIDE has been very slow for some time. Dealers offer 60 to 62 per cent. solid, in drums, at about £14 10s., and broken at £15 10s. per ton, in drums.

ZINC OXIDES.—British makers report their prices are unchanged on the week. B.P., £55; white seal, £47 10s.; green seal, £42 10s.; red seal, £38 per ton, f.o.r. works.

COAL-TAR PRODUCTS, ETC.—There is little alteration of importance to record. Business in most items has been very poor indeed. Pitch shows a further fall in value, with the market idle. Pyridin has been active, and as supplies are running short the price is moving up sharply. ANILINE OIL continues steady but in small request. British makers quote 7½d. to 8½d. per lb. naked, ex works. ANILINE SALT has been the source of little good business of late. British makers' price unchanged at 7½d. to 9d. per lb., naked, ex works.

BETANAPHTHOL continues to be quoted at about 1s. 1d. to 1s. 2d. per lb., with demand small. TOLUOL.—Market dull and British makers' prices unchanged. Pure, 1s. 8d. to 1s. 10½d.; 90's, 1s. 4½d. to 1s. 7d. per gallon. XYLOL.—Pure, 3s. 3d.; commercial, 2s. 3d. per gallon; British makers continue to quote at these rates. CREOSOTE OIL has been in fair demand, and the tone is good and tends to harden; 8½d. ex works and 9½d. per gallon, f.o.b. CARBOLIC ACID crystals have met with some occasional business, with dealers quoting from 8½d. upwards per lb., in large bulk packing. NAPHTHALENE has shown little life; dealers offer at about £16 per ton. PYRIDIN has been active again and the demand, especially on the Continent, continues. Supplies are said to be at a low level, and holders are now firm at 17s. and upwards per gallon; higher prices are expected. HEXAMETHYLENE is steady on a slow market at about 3s. 9d. per gallon. Pure METHYL ALCOHOL holds steady on a slow market. Dealers quote at about £80 per ton, in drums, ex wharf, London. PITCH.—Business during the week has been very poor indeed. The quoted price, which is nominal, has been reduced to about 60s. per ton, f.o.b. East Coast. The future is uncertain, but opinion favours still lower prices. WOOD TAR is steady on a slow market at £5 to £6 per ton, according to quality.

Fixed Oils, etc.

With the exceptions of acid oils and castor oils, most items in this market have been persistently dull, and values show a decline in many directions. Raw, naked linseed has been dull all the week and closes easier. Tungentine has had a fair week and has improved in value a little. ACID OILS.—Prices are fully maintained and the market is firm. COCONUT and palm kernel, 42s. 6d.; groundnut, 41s.; soya, 40s. 6d. all spot. CASTOR holds firm and prices are well maintained. Pharmaceutical, 70s.; first pressings, 65s.; second pressings, 64s., all spot, in barrels, in not less than one-ton lots. COCONUT.—Further material reductions are recorded.

but the market closes steadier. Deodorised, 50s., spot; Ceylon, 44s. 6d., c.i.f.; Cochin, 50s., c.i.f. Corron has been quiet of late, and prices, which show a slight fall, are by no means firm. Deodorised, about 54s.; common edible, 51s. 6d.; soap-making, 48s.; crude, 43s. 6d., all spot. GROUNDNUT.—Slightly easier values are mentioned on a very quiet market. Deodorised, spot, 58s. 6d.; crude Oriental, 52s. 6d., c.i.f. LINSEED (raw, naked) has been dull all the week and quoted rates for forward positions are at rather easier figures. On spot, 38s.; March, 37s. 9d.; March-April, 37s. 9d.; April, 36s. 6d.; May-August, 36s. 3d.; September-December, about 36s. 1d. Hui, on spot, to August, 36s.; September-December, 35s. 9d. PALM KERNEL.—Values quoted show a good fall on the week and the market has been dull. Deodorised, 47s.; crude, 41s. 6d., all spot. PALM.—During the past week, especially early on, prices on spot fell away rather badly, but towards the close the lower levels brought a steadier market. Business, however, is much quieter. Lagos, 37s. 6d.; softs, 37s.; mediums, 37s.; hards, 37s. 6d.; bleached, 41s. 3d., all spot. RAPE.—The dull tone reported last week continues and prices are rather easier. Refined, 54s.; crude, 50s. 6d., all spot. SOYA.—Business has remained slow and small, and prices show a further weakening. Deodorised, about 50s.; crude, 45s. 6d., all spot. TURPENTINE (American).—A fair volume of business has been done and prices for all positions show some appreciation, with the market closing firm. On spot, 78s. 9d.; April, 78s. 9d.; July-December, 78s. Total London stocks are returned at about 18,850 barrels of American and about 900 of French spirit. Wood remains dull, with the spot value quoted at 92s. 6d., in barrels, for Hankow.

LUBRICATING MINERAL AND BURNING OILS, ETC.—Most of the American products are standing very firm, and still tend to advance. In some directions good business has been done. Benzol may be reduced in price just a point or two in the near future. BENZOL.—British makers' prices are unchanged, but there is just a possibility that a slight reduction may take place in the near future. Crude 65's, 10½d. to 1s.; standard motor, 1s. 4½d. to 1s. 6d.; pure, 1s. 8½d. to 1s. 10d. per gallon, ex works, in tank wagons. FUEL OIL.—Prices have advanced here. 890 gravity, £5 2s. 6d.; 950 gravity, £4 2s. 6d. per ton, ex tank. PARAFFIN WAX and SCALE.—Wax has hardened on spot and is now quoted from 3½d. to 4½d. per lb., according to melting point, in bags. Scale is also dearer, with the c.i.f. quotation at 30s. per cwt. SOLVENT NAPHTHAS are well held at their recently improved rates and a fair business continues to be done. 90 to 160 1s. 3d. to 1s. 3½d. per gallon; heavy 90 to 190, 1s. 2d. to 1s. 3d. per gallon. PARAFFIN OILS.—American oil is firm. Standard white, 1s.; water white, 1s. 1d. per gallon, barrels free; Russian prime white kerosene is very firm and likely to advance; 6½d. to 7d. ex tank, 7½d. buyers' barrels, filled free; 10d. per gallon, barre's free, ex wharf, London. PETROLEUM JELLIES.—The advanced prices are fully maintained and tend to go still higher. Snow white, £63 to £68; amber and yellow, £25 to £23; red vet, £22; dark stiff green, £20 per ton, ex wharf, London, barrels free. SPECIAL OIL for Diesels and motors firmer, from 11d. to 11 1½d. per gallon, barrels free. WHITE OILS.—There is no sign of a break, and prices on spot hold firm. Special No. 1, £45; No. 1, £39; No. 3 half-white, £31 per ton, in free drums, ex wharf, London. LUBRICATING OILS.—The shipment and spot positions are about the same, with refiners practically sold up. The spot market is quite firm. On spot, pales, £14 to £27; reds, £15 to £23; dark cylinders, £17 10s. to £37; filtered cylinders, £23 15s. to £43, less 2½ per cent., ex wharf, London. SOLUBLE OIL is firm at higher rates of £21 to £25 per ton, net. No. 1 RUSSIAN OIL continues in good demand, and oil to arrive at a near date is being well taken up. The price is firm at £19 15s. and upwards per ton, less 2½ per cent., ex wharf, London.

Java Cinchona Exports

THE exports of cinchona from Java during the past year show a slight improvement compared with 1922, chiefly due to larger purchases by Great Britain and Japan, as is apparent from the following comparison of the figures for the years 1922 and 1923 (amounts in kilograms):—

Exports to	1922	1923
British India	613,000	434,000
Great Britain	244,000	574,000
Holland	5,002,000	4,938,000
Hong-Kong	—	2,000
Japan	750,000	941,000
Other countries	2,000	13,000
Total exports	6,611,000	6,902,000

During the same period, Java's exports of quinine sulphate more than doubled amounting to 250,805 kilos. in 1923, against 124,591 kilos. in 1922.

London Drug Auctions

Commercial Sale Rooms,
Mincing Lane, E.C.3. March 27.

ALTHOUGH a representative quantity of drugs offered in the twelve catalogues, the session terminated before 1 p.m. owing to the almost total absence of demand. There were practically no sales of staple drugs like aloes, Sumatra benzoin, cardamoms or dragons blood, Buchu elicited rather more demand, and a premium was paid for fine green round leaf. Cuttle-fish bone, being scarce, realised extremely high prices. Cassia fistula was 5s. per cwt, lower but the quality was lean. Ergot is flat; gamboge only sells in retail. The demand for honey fell off, but prices were maintained. There were no buyers of Maito Grosso or Minas ipecacuanha, although the limits are slightly reduced. New orange peel is steady, and rhubarb was on the easier side. Sarsaparilla was extremely flat and, if anything, in buyers' favour. Good prices were paid for Alexandrian senna pods, but leaf was neglected. Tinnevelly leaf, although comparatively scarce, met with little response from buyers. Jamaica beeswax was 5s. per cwt, higher. The following table shows the quantity of goods offered and sold, the asterisk denoting private sales:—

	Offered	Sold	Honey—	Offered	Sold
Ajowan seed	94	0	New Zealand	73	37
Albumen	2	0	West Indies	1	0
Aloes—			Ipecacuanha—		
Cape	38	2	Matta Grossa	46	0
Zanzibar	8	0	Minas	5	0
Ammoniacum (cs.)	23	2	Jaborandi leaves	27	0
Anise (Levant)	10	0	Jalap	7	0
Anise (Russ.)	50	0	Jambul seed	22	0
Anise (Span.)	8	0	Kamala (bags)	8	0
Anatto seed	97	0	(lb.)	160	0
Asafetida	187	0	Kino (Afr.)	30	0
Balsam tolu	17	0	Kola	131	10
Belladonna leaves	3	0	Lemon oil (cs.)	75	0
Belladonna root	14	0	Lime juice (pns.)	5	0
Benzoin—			Liquorice paste (cs.)	10	0
Siam	43	0	Liquorice root	58	0
Sumatra	227	0	Marshmallow root	10	0
Black haw bark	9	0	Matico	20	0
Buchu	78	7	Myrrh	230	1
Calumba	525	0	Neroli oil (tins)	10	0
Caniphor oil	14	0	Nux vomica	150	0
Cannab. Ind.—			Olibanum	188	0
African	20	0	Orange oil (bitter) (cs.)	3	0
Boatay	1	0	Orange peel	86	13
Cantharides (Ch.)	10	0	Orris (Flor.)	46	0
Caraway seed	12	0	Orris (Veroua)	9	0
Cardamoms	268	10	Petitgrain oil (tin)	1	0
Cascarilla	11	0	Poppy flowers	10	0
Cassia fistula	77	10	Pumpkin seeds	21	0
Celery seed	10	0	Rhatany	35	0
Chamomiles	5	0	Rhubarb (Ch.)	81	13
Cinchona	116	23*	Sage leaves	116	0
Cinnamon oil (cs.)	1	0	Sandalwood chips	89	0
Civet (hrns.)	3	0	Sandarae	13	0
Cochineal	8	0	Sarsaparilla—		
Colocynth	60	0	Grey Jamaica	54	7
Copaiba balsam	2	0	Luua Jamaica	21	2
Copaiba oil (tins)	2	1*	Mexican	10	0
Corianderseed	463	0	Native Jam.	23	2
Cubets (stems)	56	8	Scammony (cs.)	1	0
Cumin seed	421	0	Sebadilla	25	0
Cuttlefish bone	99	99	Seedlac	5	0
Dill seed	100	0	Senega	3	0
Dragon's blood	94	1*	Seima and pods—		
Elemi	95	0	Alex.	295	38
Ergot	18	0	Tinnevelly	125	20
Eucalyptus oil	59	0	Sqill	80	0
Euphorbia pil.	27	0	Storax	17	0
Fennel seed	95	0	Stramonium leaves	15	15
Galangal	40	0	Strophanthus	10	0
Galls	38	21	Tamarinds	79	0
Gamboge	43	1*	Tonka beans	18	0
Gingergrass oil (pots)	3	0	Tragacanth	84	0
Guaiaicum	38	7	Turnerrie (Cochin)	140	0
Guarana	3	0	Valerian (Belg.)	5	0
Gum acacia	25	20	Wax (bees)—		
Gurjun oil (dms.)	55	0	Abyssinian	112	0
Hamamelis bark	10	0	Barbados	1	0
Henbane	5	0	East Indian	25	4*
Henna leaves	88	5	Jamaica	19	19
Honey—			Morocco	20	0
Calif.	89	0	Mozambique	15	15
Cuban	25	4	Wax, veg., Jap.	25	0
French	36	0	Wax, Carnauba	15	0
Jamaica	185	60	Yohimbhe bark	257	0

ALOES.—Cape was poorly represented as regards qualities. Fair bright hard was limited at 40s. per cwt., fair seconds were obtainable at 38s., and a case of slightly coarse seconds sold at 35s. per cwt.

AMMONIACUM.—Two cases of dark part blocky tear sold at 1s. per lb.

ANISE.—Fifty bags fair Russian were bought in at 62s. 6d. per cwt.

BENZOIN was quite unsaleable. Good Sumatra seconds, well packed with small almonds, were offered at £10 10s.; good fair ditto at £8 to £8 10s., and middling ditto £7 to £7 10s. per cwt.

BUCHU.—Rather more than usual sold, comprising fine clean green round at 3s. 2d., good greenish slightly stalky at 2s. 8d., rather stalky mixed colours at 2s. 7d. Two packages of greenish rather stalky ovals sold at 2s. 8d. per lb.

CALUMBA.—A lot of 105 bags fair small to medium sorts were offered and bought in at 10s. per cwt.

CAMPHOR OIL.—Four drums white essential were bought in at 62s. 6d. per cwt., and ten drums brown at 50s.

CANNABIS INDICA.—Of Bombay tops one bag (27 lb.) was all that offered, price being 25s. per lb. Of African, ten bags loose offered and held for 3s. 6d. per lb.

CANTHARIDES.—A parcel of ten cases fair slightly broken Chinese was bought in at 4s. 6d. per lb.

CARDAMOMS.—Owing to the unsuitable quality offered from the buyer's point of view, there was no demand. Medium to bold round Mangalore character were bought in at 7s., a bid of 6s. 6d. being refused. Medium greenish Aleppy were held for 5s.. and a string could probably have been had for 4s. 11d. For good Bombay seed 6s. 6d. per lb. was wanted. Ceylon-Malabar pod was limited at from 5s. 9d. to 6s. 2d. for small to bold.

CASSIA FISTULAE.—A lot of ten baskets ordinary lean dry pod sold at 30s. per cwt. Privately, the value of fair quality is 35s.

CELERY SEED.—Privately, holders ask 150s. per cwt. owing to the advance in the French exchange. In auction, 10 bags rather dusty and fibrous, were held at 140s.

CINNAMON-BARK OIL.—A single case of Seychelles was bought in at 1s. 6d. per oz.

COCHINEAL.—For eight bags bright silvers 1s. 9d. per lb. was wanted.

COPAIBA OIL.—Two tins offered and one had been sold privately: 9s. 6d. was wanted for the remaining tin.

CUBEB.—Fair slightly stalky was obtainable at £11 per cwt., and 8 bags Cubeb stems sold at 10s. per cwt., subject to sellers' approval.

CUTTLE FISH BONE dearer. A parcel of 99 bales East Indian offered, and met with brisk bidding: 55 bales consisted of dull broken sorts, which sold at from 1s. 6d. to 1s. 9d. per lb.; small to bold dull, slightly damp and rusty sorts (25 bales) went at 1s. 7d. per lb., and 18 bales, very damp, dull sorts, went at 1s. 4d. per lb.

DRAGON'S BLOOD.—No business was done in auction, but seven cases had been sold privately. A string of 25 cases fair Singapore block was limited at £20 per cwt., and for 15 cases fair thin reed, £17 was wanted.

DILL SEED.—A lot of 100 bags fair East Indian was retired at 25s. per cwt., 22s. 6d. being the limit.

ERGOT.—A lot of 13 bags fair, sound Spanish was held in at 1s. 2d. per lb. Privately, the market is flat at from 1s. to 1s. 3d. per lb.

ECALYPTUS OIL.—Ten cases (77 per cent. cineol) were limited at 2s. 1d. per lb., and ten cases (83 per cent. cineol) at 2s. 1d. also.

GALLS.—A lot of 18 bags, sea-damaged, sold without reserve on account of whom it may concern at 25s. to 30s. per cwt., and three bags blue went at 4s. per cwt.

GAMBOGE.—A single case of common dull, part ricey, Saigon pipe sold at £12 per cwt. Good Siam pipe, slightly blocky, was obtainable at £19 per cwt.

GENTIAN.—Holders privately ask 35s., which is cheaper than the forward price.

GINGERGRASS OIL.—Three pots of genuine oil of the soluble type, according to analysis, were bought in at 7s. 3d. per lb.

GUAIACUM.—Seven cases fair glassy block, part slightly drossy, sold at 2s. to 2s. 3d. per lb.

GUARANA.—For a single case 2s. 6d. per lb. was wanted.

GUM ACACIA.—A lot of 20 bags common Ghatti pickings sold without reserve at from 14s. to 20s. per cwt.

HENNA.—Ten bales brownish broken, and part stalky, offered without reserve, and sold at 4s. per cwt.

HONEY.—Very fair arrivals are taking place, but the bulk of it appears to be going into direct consumption, and does not come on the market. Supplies at auction were much smaller than usual after so lengthy an interval, but the demand proved flat and little was sold. Jamaica was represented by 157 packages, the following being sold: Light amber liquid (29 packages) at 60s.; amber liquid (16 packages) at 53s. and 56s.; pale set (6 packages) at 60s.; amber set (5 packages) at 57s. 6d.; amber semi-liquid, 46s. to 50s. Of New Zealand, 73 offered and 37 cases sold cheaply at 52s. 6d. for yellowish character set. Four packages pale set Cuban went at 55s. Prices, on the whole, were steady compared with private prices.

IPECACUANHA.—A very fair quantity Matto Grosso offered, but there were no buyers. Good bright sound was obtain-

able at 9s. 6d. per lb., and for 5 bales fair Minas 9s. was wanted.

KOLA.—Nine bags country damaged or part-mouldy West African quarters offered and sold without reserve at 1½d. per lb. Under usual conditions a further 61 bags West African quarters were retired at 3d. per lb. A single bag of common dark Jamaica halves and whole sold at 1½d. per lb.

LIQUORICE ROOT.—A lot of 20 bales decorticated offered at 57s. 6d. per cwt.

MYRRH was plentiful, but only small sales were made, comprising a bag of good fair Aden, slightly blocky sorts, at £6 10s. per cwt. Good bright siftings were held for £5 per cwt.

NUX VOMICA.—A lot of 30 bags fair bright small was held at 16s. per cwt. Another lot of 120 bags, comprising 100 fair bright thick Ceylon were limited at 17s. 6d., and for 20 bags medium to bold good bright silky Cochin 25s. was wanted.

ORANGE PEEL.—Three cases dull strip of old crop sold without reserve at 3½d. per lb. Ten cases new crop sold at 9d. per lb. for good, bright Tripoli strip.

ORRIS.—A lot of 46 bags Florentine was bought in at 32s. 6d. per cwt. for fair sorts and at 30s. for leanish ditto. Nine bags dull lean Verona offered and bought in at 25s. per cwt.

RHATANY ROOT.—A parcel of 14 bales offered without reserve, and a bid of 45s. was refused. The private value is about 75s.

RHUBARB was slow of sale. Two cases medium flat Shensi, with three-quarters fair pinky fracture, went at 3s. 6d. per lb., and for two cases Shensi pickings 2s. 6d. was paid; a case of medium round Shensi sold at 3s. 4d. Five cases of small, round, rough High-dried, with three-quarters dull pinky fracture, and one-quarter dark, sold at 1s. 6d. per lb. Three cases sold cheaply without reserve, comprising two cases of medium round Shensi and a case of medium flat, coarse-looking Shensi, at from 2s. 4d. to 2s. 5d. per lb. for three-quarters greyish pinky fracture.

SAGE LEAVES.—A lot of 101 bales, and 15 bags Greek from Salonica offered without reserve, more or less country damaged, but as no bids were made the parcel was taken out at 8s. per cwt.

SARSAPARILLA.—Grey Jamaica was plentiful, but only retail sales were made at 2s. per lb. for fair fibrous, and for four bales without a limit 1s. 9d. was paid. Two bales Lima-Jamaica sold at 1s. 8d. per lb., and 2 bales native Jamaica realised 1s. 6d. per lb. for dull red and yellow mixed. Good red press-packed native Jamaica was held at 1s. 11d.

SENNA.—An unusual feature was that the offering of Alexandrian leaf exceeded that of the Tinnevelly, the latter being scarce. There was a small demand for Tinnevelly, the first 74 bales to be offered being bought in; 7½d. per lb. was wanted for fair medium greenish. In another catalogue 6½d. was paid for bold medium greenish, 5½d. for middling greenish, and 4d. for inferior mixed and dark. Alexandrian pods were in demand, 11 bags selling at 2s. 3d. for good pale picked and 1s. 1d. to 1s. 6d. for fair; 15 bales siftings sold at 5d. per lb. Ten bales dark Mecca pods sold without reserve at 4½d. Fair broken greenish Alexandrian leaf was plentiful at 10d. per lb.

SQUILL.—Privately good pale quality is scarce and worth 25s. per cwt. if obtainable. In auction 25s. was wanted for palish and 14s. to 15s. for ordinary yellowish.

STRAMONIUM LEAVES.—A lot of 15 bales hard and brittle South African offered and sold without reserve, if pay charges, at 10s. per cwt. The private value of fair Hungarian quality is 25s. per cwt.

TONKA BEANS.—A lot of five casks good frosted Angostura, via Trindad, were offered and held at 7s. per lb. Of Para, ten cases offered and retired at 1s. 9d. per lb. for mostly fair black.

TURMERIC.—No finger offered; 100 bags Cochin split bulbs were held at 22s. 6d. per cwt., and a further lot of 40 bags small split ditto were limited at 25s. per cwt.

VALERIAN.—For five bales fair Belgian 35s. per cwt. was wanted.

WAX, BEES'.—Jamaica was more plentiful, a string of 19 packages being offered of mostly fair brown block at £8 per cwt., an advance of 5s. per cwt. on the previous auction price. Of Mozambique, 15 bags fair even brown block realised £6 5s. per cwt. Four cases bleached Calcutta had been sold privately: £7 15s. was asked for dullish bleached Calcutta, at which private sales have been made; 112 packages Abyssinian had not been landed in time.

WAX, CARNABY.—A lot of 15 bags fatty grey was held at 19s. per cwt., at which private sales have been made.

YOHIMBEHE BARK.—A lot of 257 bags, all more or less damaged, offered without reserve, but only one bid of 25s. was made, and this was refused.

Italy's Foreign Trade

ITALY's foreign trade, like that of Great Britain, shows an excess of imports over exports, but both countries possess distinctive "invisible exports," or special forms of revenue, which, while not figuring in the official statistics, contribute materially to the national prosperity, and consequently reduce very effectively the apparent adverse balance of trade. During the year 1922 Italian imports represented a value of 15,728,120,466 lire, while exports amounted to 9,297,116,589 lire. The following values are given for chemical and medicinal products, included in Section VII. of the official statistics :—

	Imports	Exports
Essential oils, perfumes, soaps and candles ..	Lire 40,121,877	Lire 78,165,033
Inorganic chemical products ..	133,735,586	41,858,856
Organic chemical products ..	50,389,812	170,739,372
Medicines and pharmaceutical products ..	33,995,679	52,409,742

In the following table the total Italian imports and exports, in kilograms, of those goods of special interest to the drug and chemical trades are given for the year 1922 :—

	Imports	Exports
	Lire	Lire
Acetone ..	1,000	497,200
Acid, acetic (crude) ..	238,700	11,400
Acid, acetic, 90 p.c. ..	378,880	—
Acid, acetic, 98 p.c. ..	10,900	300
Acid, arsenious ..	156,400	5,300
Acid, benzoic ..	2,900	300
Acid, boric, crude ..	—	649,600
Acid, boric, refined ..	600	780,900
Acid, carbolic, pure ..	136,400	32,800
Acid, citric (total) ..	2,900	1,578,300
Great Britain ..	—	157,000
France ..	—	242,000
Germany ..	—	59,000
Spain ..	—	38,000
Japan ..	—	88,000
Argentine ..	—	167,000
United States ..	—	564,000
Acid, nitric ..	1,458,200	6,600
Acid, oleic ..	1,971,600	1,344,400
Acid, oxalic ..	152,400	500
Acid, salicylic ..	14,800	200
Acid, stearic ..	572,300	—
Acid, sulphuric ..	21,400	201,000
Acid, tannic ..	45,200	131,000
Acid, tartaric (total) ..	56,200	2,126,200
Great Britain ..	—	391,000
France ..	—	315,000
Spain ..	—	71,000
Japan ..	—	157,000
British India ..	—	30,000
Australia ..	—	7,000
Egypt ..	—	12,000
Argentine ..	—	513,000
United States ..	—	250,000
Alkaloids, not otherwise specified, and salts ..	12,070	269
Ammonium carbonate ..	371,900	1,800
Ammonium chloride ..	608,900	5,800
Arachis oil ..	3,043,100	11,400
Bismuth nitrate ..	900	—
Borax ..	286,300	1,600
Bromides, metallic ..	16,800	300
Bromine ..	12,900	—
Calcium citrate (total) ..	—	9,017,000
Great Britain ..	—	1,166,000
Germany ..	—	562,000
United States ..	—	6,710,000
Calcium tartrate, crude ..	100,300	9,500
Calcium, tartrate, pure ..	—	500
Camphor, crude ..	—	—
Camphor, refined ..	34,600	100
Castor oil ..	702,500	103,800
Chlorine, liquid ..	3,500	88,000
Chloroform ..	16,900	—
Copper sulphate ..	3,949,200	1,680,100
Cream of tartar ..	1,700	438,300
Essences for liqueurs and perfumery	3,878	87,993

	Imports	Exports
Ether ..	Lire 116,700	Lire 400
Formaldehyde ..	276,600	100
Glycerin, crude ..	169,700	278,500
Glycerin, refined ..	248,100	1,700
Hydrogen peroxide (solution) ..	104,600	1,300
Iodides, metallic ..	16,800	700
Iodine, crude ..	28,700	—
Iodine, refined ..	9,300	100
Iodoform ..	300	400
Linseed oil, boiled ..	1,484,600	69,000
Linseed oil, crude ..	1,516,900	19,700
Lithargyrum ..	37,700	1,353,400
Magnesia, calcined, pure ..	3,100	127,800
Manna ..	200	158,600
Medicinal specialities ..	105,900	289,100
Mercuric chloride ..	200	11,500
Mercury oxide ..	—	3,900
Milk sugar ..	41,100	8,600
Oils of anise, citronella, cedarwood, eucalyptus, lemongrass, hinaloe, spike, and thyme ..	31,694	128
Oil of bergamot ..	—	166,520
Oil of cloves ..	896	1
Oil of lemon ..	—	687,810
Oil of mandarin ..	—	3,762
Oil of orange ..	—	124,465
Oil of peppermint ..	3,143	13,119
Oil of rose ..	70	54
Oils, essential, not specified ..	10,987	16,840
Oils, essential, terpeneless ..	5,077	932
Perfumery, alcoholic ..	34,100	19,600
Perfumery, non-alcoholic ..	248,900	22,200
Perfumes, synthetic ..	38,417	439
Pharmaceutical preparations: pills, tablets, capsules ..	82,900	51,200
Pharmaceutical preparations, compound ..	195,300	198,700
Pharmaceutical preparations, simple ..	71,100	153,000
Plants, medicinal, exotic ..	313,400	12,000
Plants, medicinal, indigenous ..	482,500	1,852,400
Plants, powdered ..	9,200	153,000
Potash, caustic ..	863,600	20,900
Potassium carbonate ..	481,500	400
Quinine, and salts ..	68,133	680
Resorcin ..	900	—
Saccharin ..	—	110
Secret remedies ..	11,800	11,400
Sesame oil ..	31,300	16,900
Silver nitrate ..	1,291	22
Soap, perfumed ..	123,800	121,900
Soap, plain ..	4,966,800	1,982,500
Soap, transparent ..	7,500	1,200
Sodium bicarbonate ..	2,073,800	30,000
Sodium carbonate ..	553,000	231,200
Synthetic medicinal products (excluding alkaloids) ..	33,911	14,183
Tartar, crude ..	34,800	9,530,200

The exports of sulphur amounted to 112,399 tons, of which Great Britain imported 14,553 tons, Greece 19,523, France 17,038, Germany 7,700, British India 4,571, South Africa 686, Smyrna 2,648, and Turkey in Asia 1,551 tons.

Italian Olive Oil

SOME interesting statistics have just been published showing that the Italian olive-oil industry, which for some time after the war had dwindled to a low ebb, is showing definite signs of re-awakening. During the first nine months of last year 217,161 quintals edible olive oil, valued at 143,062,543 lire, and 150,903 quintals of refined oil, etc., valued at 51,807,597 lire, were exported from Italy, while during September alone the export of edible olive oil rose to 11,939 quintals, compared with 8,241 quintals in August. The total export for the corresponding period in 1922 of olive oil of all descriptions was only 127,030 quintals, of a value of about 53 million lire. There was a marked increase in the export of Italian oil, especially to France, Switzerland and the United States, and while for this period in 1922 Italy herself imported 40,235 quintals of olive oil from abroad, this quantity had, during the first nine months of 1923, fallen to only 4,447 quintals.

South African Medicine Tax

CHEMISTS' CLAIM FAILS

Great uncertainty exists amongst the chemists of the Peninsula as to which medicines are taxable under the new Patent Medicines Act. That still greater uncertainty exists amongst the magistrates who are called upon to deal with delinquents amongst the chemists was admitted by Mr. J. F. Malherbe, A.M., at Wynberg Court, on March 3.

"It is unfair to ask magistrates to decide about these medicines," said Mr. Malherbe, dealing with a case in which two Wynberg chemists, Mr. John Murphy (of Hopkins & Co.) and Mr. John Copeland were charged with failing to affix excise stamps on medicines exposed for sale. It was argued by Mr. Berman, who appeared for Mr. Murphy, that there was no intention on the part of his client to avoid paying the excise, but a definite ruling was required from the Court as to which medicines were subject to the stamp duty. It was not for the Collector of Customs to instruct the Court as to the interpretation of the Act. It was for the Crown to prove that the excise officer was correct.

Mr. Harding, Assistant Collector of Customs, had given evidence that certain medicines with proprietary labels were taxable according to a schedule published in the Government Gazette. Mr. Berman argued that under a more recent notice in the Gazette these medicines fell under such generic names as aperients, embrocations, laxatives, digestives and disinfectants, which had been declared free from tax.

CHEMIST OR LINGUIST?

Viljoen's Dutch Dictionary was produced in Court, and Mr. Berman submitted that an "embrocation" within the meaning of the regulation was the same thing as "smeergoed" in Africaans, and that "smeergoed" was the same thing as "liniment," and, therefore, an article which his client was charged with not stamping was in reality an embrocation and so exempted from taxation.

"Viljoen may have been a good linguist," commented the magistrate, "but he may not have been a good chemist." Mr. Murphy showed that several other proprietary medicines which he had not stamped fell under exempted classes of medicines.

The Magistrate: If you are going to carry your argument to its logical conclusion, there is not a medicine in a chemist's shop which you will not be able to classify as an embrocation, a laxative or one of the exempted classes! Mr. Berman: That is what I shall advise chemists to do. "I can see a tremendous lot of trouble ahead if these chemical questions are to be brought before the Court of the Magistrate to decide," said the magistrate. "You argue that some medicines should be exempt because they have Dutch names. I have the excise officer here armed with the authority of his department to say that these medicines which the accused are charged with selling unstamped are dutiable."

He added that he would like to see a complete list compiled, were this possible, of all medicines which were taxable, and another list of all those which were not.

Both Messrs. Copeland and Murphy were found guilty. Mr. Copeland, who had pleaded that in addition to a certain amount of uncertainty in deciding which medicines were taxable, there had been carelessness in omitting to stamp others, was fined £5. Mr. Murphy, whose plea was that of being baffled by the anomalies of the Act, was fined £3.

SOME MISAPPREHENSIONS

In the Union House of Assembly, on March 3, Major Hunt asked the Minister of Finance whether, when stating that the revenue from the Patent Medicine Stamp Tax was £35,000 less than was estimated, he took into account the revenue derived from customs duties on toilet goods and perfumery, which were included in his first estimate of revenue from the patent-medicine stamp tax; whether any of the revenue from the patent-medicine stamp tax was derived from irregular assessments by the officers concerned in the collection of this tax, and, if so, what amount; and what amount of the revenue from this tax has been derived by the practice of revenue

officers arbitrarily assessing the amount of revenue due to the Department and taking deposits from chemists and storekeepers, which deposits were subsequently estreated?

The Minister replied to the first part of the query in the negative, explaining that the estimated revenue of £100,000 did not include any revenue to be derived from customs duties on perfumery and toilet preparations. None of the revenue was derived from irregular, nor from arbitrary assessments or deposits. He invited the hon. member's attention to the reply given to the question of the member for East London on February 26.

Trade-marks Applied for

The figures in parentheses refer to the classes in which the marks are grouped. A list of classes and particulars as to registration are given in "The Chemist and Druggist Diary," 1924, p. 289.

- (From "The Trade-marks Journal," March 12, 1924.)
- "ICTEROSAN"; for medicinal chemicals (3). By Chemische Fabrik Auf Aktien (vorm. E. Schering), Mullerstrasse 170/171, Berlin, N.39. 444,877.
 - "GREENBANK BATH CRYSTALS" on label device of garden with fountain; for bath crystals (3) and (48). By the United Alkali Co., Ltd., Cunard Building, Pier Head, Liverpool. 440,817/818. (Associated.)
 - Device of bulldog's head on circle; for surgical plaster (3). By E. Taylor, Ltd., 3 and 4 Islington Square, Salford, Manchester. 441,534.
 - "EGROVAR"; for all goods (3). By Society of Chemical Industry in Basle, 141-227 Klybeckstrasse, Basle, Switzerland. 444,791.
 - "SNODRO" on diamond shape; for medicinal chemicals (3). By Snook Bros., Cliff Farm, All Cannings, Devizes, Wiltshire. 444,918.
 - "INOTYOL"; for medicinal chemicals (3). By Société Anonyme des Laboratories Innoxa, 35 Rue des Petits-champs, Paris. 445,105.
 - "ULVIRA"; for surgical instruments, etc. (11). By R. H. Davis, 187 Westminster Bridge Road, London, S.E.1. 442,902.
 - Oblong label with circular heraldic device of ram, shield and word "FORWARD." Circular heraldic device of ram, shield and words "FUNDADA 1847." Device of eagle and circle; for all goods (11). By Alcock Manufacturing Co., 22 Hamilton Square, Birkenhead, Cheshire. 443,827/828/829. (Associated.)
 - "BROWNIE"; for goods (47) and for all goods (48). By J. Bibby & Sons, Ltd., King Edward Street, Liverpool. 441,431/432. (Associated.)
 - "PRUDENCE"; for goods (47) and for soap (48). By Ashby Soaps, Ltd., Derby Road, Ashby-de-la-Zouch, Leicestershire. 442,192/193.
 - "QUEEN OF THE EAST"; for soap (47) and (48). By F. S. Cleaver & Sons, Ltd., Gould Road, Twickenham, Middlesex. 442,853/854. (Associated.)
 - "AMBARRE"; for perfumery, etc. (48). By United Chemists' Association, Ltd., Priory Court, Cheltenham. 442,468. (Associated.)
 - "ODASCHEM"; for perfumery, etc. (48). By W. D. Hawkes, 73 Bridge Street, Manchester. 442,500.
 - "BELMERA"; for all goods (48). By J. Ratcliffe & Sons, Ltd., Middle Hillgate, Stockport. 443,565.
 - "BURLONA"; for perfumery, etc. (48). By J. W. Burnell, 51 Preston Road, Brighton. 444,330.
 - "YULAMAR"; for all goods (48). By Marion L. Holmes, 371A Oxford Road, Manchester. 444,772.
 - "OMNIA"; for gelatine bottle capsules (50). By A. A. Boucher and H. T. Smith, 31-34 Basinghall Street, London, E.C.2. 444,269.
- (From "The Trade-marks Journal," March 19, 1924.)
- "YOUNG'S LYSOL"; for Lysol disinfectant (2). By R. Young & Co., Ltd., 38 Elliot Street, Glasgow. B 433,040.
 - "UNIQUE" on horseshoe device, with horse and facsimile signature "Geo. Dudley" ("Unique" disclaimed); for veterinary chemicals (2). By G. Dudley, 2 Pond Road, West Ham, London, E.15. 441,921.
 - "BRITANNIA" on circular device with crown and laurels ("Britannia" disclaimed); for sulphate of copper (2). By J. De Gay, 5 Laurence Pountney Hill, Cannon Street, London, E.C.4. 444,592.
 - "LEVITHIAN"; for disinfectants (2). By Thelwall & Co., Ltd., Air Street, Hull. 444,651. (Associated.)
 - Picture of skeleton in cloak using sprinkler; for all goods (2). By Tidswell, Bailey & Tidswell, 82 Corporation Street, Manchester. 445,046.

Chemistry in Public Life

In a lecture on *The Progress of Chemistry in Public Affairs* at the Institute of Chemistry on March 14, Mr. J. T. Dunn, D.Sc., F.I.C., outlined directions in which chemistry has entered into the life of our community, and sketched the development of its influence. The period covered by the lecture dated from 1841, when the Chemical Society was founded. At that time public laboratories for the teaching of chemistry did not exist in London. In 1843 the Pharmaceutical Society established its laboratory for the use of its own students, and four years later the College of Chemistry was founded. Apart from its effect in hastening the progress of scientific chemistry, the formation of a society with such objects as those of the Chemical Society had a considerable significance in forcing public recognition of the fact that there was such a thing as chemical science. Coming to the directions in which chemistry had been applied to our public life, the lecturer dealt first with foods. During the years 1851 to 1854 an investigation was carried out on the extent and nature of adulteration, and the work done was co-ordinated in Dr. A. H. Hassall's book on "Food and its Adulterations," published in 1855. This indicated that out of 213 samples of coffee examined, 184 were adulterated; 42 samples of mustard were all adulterated; 24 samples of bread all contained alum; out of 28 samples of cayenne pepper 26 were adulterated—13 of them with red lead and 1 with cinnamon. A similar state of things was found to exist with almost every other article of food examined. Methods of analysis were crude and uncertain, and any quantitative results obtainable were but rough approximations. Knowledge steadily increased, however, and analytical methods were improved. Much of the progress in the chemistry of food had been due to the members of the Society of Public Analysts, which body was founded in 1874.

PURITY OF WATER AND AIR

The lecturer then turned to the examination and control of the purity of water supplies which has existed under public auspices. Water supply authorities are required to make periodical inspections of the water supplies which they control, and are responsible for closing supplies which are proved to be polluted. The most prominent example of regular water examination is that of the Metropolitan Water Board, which has a staff of about half a dozen whole-time chemists and bacteriologists, who, in addition to carrying out examinations of the water, are continually carrying out research into different modes of treating water. Modern methods of dealing with sewage are essentially chemical processes, needing constant chemical and bacteriological supervision. Rivers boards often have to deal with effluents from normal sewage treatment installations and from factories which produce waste. Here the problem arises, not only of the character of each individual effluent, but of the possible reaction of one upon another in the same stream. With reference to coal smoke abatement, Dr. Dunn mentioned the work of the collection of data by the committee appointed at the International Exhibition in 1912, which committee established soot gauges all over the country, the deposited matter in the gauges being weighed and analysed monthly. Later, the committee was taken over by the Meteorological Office. But there were more directly harmful substances introduced into the atmosphere, prominent among which, in the early days of the alkali industry, was the hydrochloric acid arising from the decomposition of salt in the first stage of the Le Blanc process for the manufacture of alkali. Legislation was passed from time to time compelling condensation of hydrochloric acid gas; in 1906 the whole of the regulations were consolidated, and the variety of works coming under the operation of the Act was widened. The lecturer traced this legislation to show how widely the work of inspection and control was extended. A feature of comparatively recent years was the application of chemistry to the protection of workers in dangerous industries.

GOVERNMENT LABORATORIES

Reference was then made to the use of chemistry by Government Departments for the testing of materials. The office of Admiralty chemist dated back to the middle of last century. His laboratory was almost wholly occupied in the routine testing of materials for construction and for other needs of the Service, except medical stores, foods and explosives. In addition to the chief and his deputy, there were about twenty analysts. A certain amount of technical research work was also carried on. The Directorate of Chemical Inspection at Woolwich carried out corresponding work for the War Office. The requirements of the Air Ministry, both in routine testing of materials and research, were attended to by a staff of about sixteen chemists and metallurgists at the Royal Aircraft Establishment, Farnborough. The Ministry of Health, in the foods subdivision, carried out investigations, both chemical and biological, into various questions of food supply, and had published valuable results. The Department which ranked first in the application of chemical science to public affairs, however, was that of the Government chemist. This Department dated from 1911. It sprang from the establishment at Somerset House in 1843 of a laboratory under the Inland Revenue Department, primarily for the examination of tobacco, though later it undertook the analysis of other excisable articles. The Custom House also had a laboratory for the examination of wines and spirits and other articles paying Customs duties, and these two were amalgamated in 1894, placed under the direction of a single head, and officially termed the Government Laboratory. The work of the laboratory gradually widened. By the Sale of Food and Drugs Act, 1875, the Commissioners of Inland Revenue, through the chemical officers of their Department at Somerset House, were made referees in cases of disputed analyses; by the Fertilisers and Feeding Stuffs Act the principal of the laboratory was made chief agricultural analyst, for similar purposes; and various other Government Departments obtained permission to apply to the laboratory for advice and for analytical work they required carried out. This expansion rendered the staffing of the laboratory exclusively by Revenue officers undesirable, and in 1911 the laboratory was removed from the control of the Customs and Excise, and constituted an independent branch of the Government work as the department of the Government chemist. The work of the laboratory is extremely varied, consisting of the examination of samples for Inland Revenue purposes, the examination of Government stores for almost every Department, the chemical work of the Geological Survey, the examination of imported dairy produce, the analysis of samples under the Sale of Food and Drugs Acts and the Fertilisers and Feeding Stuffs Act, of medicines under the Medicine Stamp Acts, and the investigation of problems for Government departments, Royal commissions, Parliamentary and departmental committees, etc. The work is carried on by a permanent staff of about forty, assisted by over 100 temporary assistants. A comparison of successive issues of the list of official chemical appointments published by the Institute of Chemistry, said the lecturer, showed that the staff of the Government Laboratory was, according to the 1906 edition, twenty-four, and in the edition now being issued it is seventy; in 1906 the number of authorities which had established Drainage Boards was thirty-three, and it is now sixty-five; the number of pages devoted to chemical appointments in India, the British Dominions, Colonies and Protectorates had increased from twenty-eight to fifty. In connection with the conquest of the air there was a fascinating and interesting example of the fertility of an idea, and of the consequences which may follow its inception. It was that the discovery of terrestrial helium in quantities sufficient to permit of its use for the inflation of airships had its origin, and in a certain sense might be said to be due to, the speculation of Prout, more than a century ago, regarding the building up from the hydrogen atom of the atoms of all other elements. The chain of connection was perhaps long, but was unbroken.

Persian Saffron

THE appearance of Persian saffron in the London market, although of rare occurrence, is not surprising, since the price of the European article has doubled and nearly trebled. Saffron has long been known as a product of Persia. It was formerly sent from that country and Kashmir to Bombay, but was driven out of the market by the superior saffrons of Europe. Whether the sample of saffron just received, which we owe to the kindness of Marshall, French & Lucas, Ltd., of Fen Court, is derived from the wild plant indigenous to Persia or from the form of *Crocus sativus* cultivated in France, Spain and Austria, is doubtful. Saffron was cultivated at Derbena and Ispahan in Persia in the tenth century. It differs a little in appearance from European saffron in being rather more slender and in the unbranched part of the style being paler, but the characteristic odour is remarkably strong. On immersion in water it does not seem to give out so much colour as European saffron, and could only compete with it if the price enables it to be used in sufficient quantity to give a colour equal to that used in Europe. The sample under examination arrived in London by parcel post, packed in goatskins, and put up in small bundles of about 2 oz. So far as can be judged from its appearance it is quite probably derived from the wild Persian saffron crocus, which is the var. *Hausknechtii*, which occurs on the Delechani and Sangur mountains between Kermanshah and Hamadan in West Persia, and at Karput in Kurdistan, which is the most easterly point where any form of *Crocus sativus* occurs in the wild state. It may be mentioned that five forms of *Crocus sativus* are known in the wild state. (1) var. *Orsinii*, which may be regarded as the Italian form and is found at Ascoli, the most westerly point from which any wild form of the plant is recorded. It nearly resembles the cultivated type in purplish colour and habit, but the stigmas are erect and do not hang out between the segments of the perianth as in the cultivated plant. (2) var. *Cartwrightianus*, a Grecian form common in the Piraeus, in which the flowers are smaller and paler, but the stigma is erect and longer than the stamens, as in the cultivated plant. (3) var. *Pallasii*, a still smaller form with pale flowers and smaller corms, and the stigmas are nearly always shorter than the stamens. It is the commonest of the wild forms, extending through Bulgaria to the Crimea, and reaching Italy on the west. (4) var. *Elwesii*. This is similar to the last, but has short stigmas and larger flowers, and occurs in Asia Minor. (5) var. *Hausknechtii*. This, like Nos. 1 and 2, has long stigmas, but the perianth is usually white; it may be regarded as the Persian form, extending from West Persia to Kurdistan. But records of the collection of saffron from the wild plants are wanting. Only Nos. 1, 2 and 5 are fitted for collection in having long stigmas, but the cultivated purple flowered form with its stigmas hanging outside the flower would naturally be the easiest to collect, and it would only be the wild varieties from Italy, Greece and Persia that could be utilised. There is no doubt that the cultivated form is also grown from France to Kashmir, whence it was introduced from Persia, and also that it is largely cultivated in Burma (near the Youngaline River at Kuzeih, about ten miles from Pahun) and in China. But it is not always a paying crop, as it does not produce seeds unless cross fertilised, and the corms are subject to disease if grown in the same ground too long. In these circumstances, it is quite likely that the Persian saffron at present offered in commerce may have been derived from the wild Persian form var. *Hausknechtii*. At all events, the pale, almost white, lower part of the styles gives it a characteristic appearance.

ITALIAN FIUME.—Following the incorporation of Fiume in the kingdom of Italy, ordinances have been issued substituting local, as well as former Hungarian, measures by Italian laws and regulations. These include the application of the Italian customs tariff, revenue taxes, import and export regulations.

West Indian Lime Industry

THE colonial report of the Leeward Islands includes the following details of the lime industry for 1921-22. The crop of limes during 1921 was a record one, amounting to 516,000 barrels of fruit, or 114,000 barrels above the previous record of 1919. The following table shows how the crop is disposed of. It should be noted that fifty gallons of concentrated juice represent seventy-five barrels of lime fruits; seven and a half gallons of raw juice represent one barrel of lime fruits; one ton of citrate of lime is equivalent to 266 barrels of lime fruits:

Product		Barrels of fruit	Approximate percentage of total crop
Concentrated juice ..	..	1341,574	66.2
Raw juice ..	..	14,975	2.9
Fresh limes ..	..	21,883	4.2
Citrate of lime ..	..	37,362	26.6

Comparison with the figures of last year's disposal of crop shows the following changes. The proportion shipped as concentrated juice rose from 62 to 66.2 per cent., and that shipped as raw juice fell from 10 to 2.9 per cent. Fresh limes showed a slight fall from 5 to 4.2 per cent. Citrate of lime continued to improve its position, having risen from 22 to 26.6 per cent. No shipments of lime-juice cordial were made during the year. While the lime is grown primarily for the production of citric acid, the industry has been stabilised by the development of important lines of business in raw juice, fresh limes and essential oils. Thus, as often happened, while the market for one or more products was in a depressed state, other products were selling at satisfactory rates. The gradual falling away, almost to vanishing point, of the trade in raw juice and fresh limes is unfortunate. During 1914, under normal conditions, these two products formed no less than 24 per cent. of the industry, and in 1916 30 per cent., though the latter figure was due, in some measure, to war conditions. During the year under review these once-flourishing trades formed only 7.1 per cent. of the entire production of limes, while the citric-acid trade, as represented by concentrated lime juice and citrate of lime, made up the balance. While the output of limes is increasing, the tendency is thus towards the extinction of certain lines of trade in lime products, and the general drift is narrowing in the direction of a single product—citric acid. Mention has been made of the erection of a factory for the production of citric-acid crystals. The plant was completed towards the end of the year, and a small shipment of citric acid, weighing 224 lb. and valued at £10, was made in December. Early in January 1922 a second shipment of a weight of 8,260 lb. and valued at £415 was effected. Both of these consignments effectively passed the examiners' tests and were favourably reported on. Another development of interest was the erection of a factory for the production of citrate of lime. There are now four of these factories in operation in the island. The total value of the products in the lime industry during 1921 was £176,808. This included the following:—

Product	Quantity	Value
Concentrated lime juice ..	227,716 gallons	£76,854
Raw lime juice ..	112,317 "	8,424
Citrate of lime ..	10,328 cwt	38,558
Citric acid ..	2 "	10
Distilled oil of limes ..	51,524 lb.	6,921
Handpressed limes ..	18,551 "	15,056

With regard to Montserrat, the export of raw lime juice shows a decrease from 81,277 gallons of an estimated value of £8,648 in 1920 to 67,620 gallons of an estimated value of £3,562 in 1921; citrate of lime also was exported to a total estimated value of £1,760, as compared with £2,734 in 1920. There is a small but growing bay-oil industry, and the export of papaine was 1,316 lb., value £878, as compared with 821 lb., value £602, in 1920.



Letters for this section should be written on one side of the paper only. Correspondents may adopt an assumed name for purposes of publication, but must in all cases furnish their real name and address to the Editor.

Alchemy

SIR,—I was very pleased to read in your issue for March 8 (p. 355) the letter from Dr. Druce animadverting upon the notice of the second edition of my "Alchemy : Ancient and Modern," which appeared in your issue of February 2. Dr. Druce does me the honour of stating that, so far as he is aware—and his knowledge of the literature may, I think, be relied upon—my book, "for the first time, indicates the psychological origin of the underlying assumptions of the alchemists." In his "Observations and Reflections" on Dr. Druce's letter your contributor "Xrayser II" appears completely to have misunderstood this remark of Dr. Druce's. All assumptions necessarily have psychological origins. The pity of it is, however, that so many of the books dealing with old-time beliefs consist of little more than catalogues of various superstitions with trite comments as to their absurdity, and betray no signs of any effort having been made to explain why, if the beliefs in question are so obviously absurd, they were ever entertained by the mind of man, although it is just this latter problem which is the real matter of importance. "Xrayser II," by his reference to Hitchcock's book, "Remarks on Alchemy and the Alchemists," would seem to make the assumption that a psychological origin implies a psychological end, or, at any rate, to imply that Dr. Druce—which, I think, is evidently not the case—intended by the expression, "the psychological origin of the underlying assumptions of the alchemists," a reference to the hypothesis that alchemy dealt purely with psychological matters and used chemical symbology to hide its true intentions and aims. The untenability of this hypothesis will be found, I think, demonstrated in the first chapter of "Alchemy : Ancient and Modern," in which I fully endorse the opinion of Mr. A. E. Waite that it is incompatible with the known facts concerning the lives of the alchemists themselves. I ought to add further that I think it unwise to confound this hypothesis with the views held by Paracelsus. Paracelsus, no doubt, thought that almost everything was possible to the human will, including transmutation of metals; but to register this belief is by no means the same thing as to assert that the whole of alchemical literature is a sort of veiled mysticism. In any case, Paracelsus was not particularly concerned with the problem of transmutation. His chief aim was the preparation of new and purer drugs, and he is to be regarded as the initiator of a new movement in the history of chemistry. As concerns Boehme, Dr. Druce is perfectly correct in his assertion that I do not attribute "a mystical interpretation of alchemy" to this philosopher. Boehme was an alchemist only in a mystical sense. That is to say, he borrowed alchemical terminology for the exposition of a system of mystical philosophy. With reference to the question of impostors, the history of any subject, in my opinion, ought to take cognisance of all the important characters concerned therein, including those which come under the category of impostors. Kelley was almost certainly a gentleman of this sort, but his alchemical works are historically of considerable importance and contain a valuable summary of the views of earlier writers. Kelley had the best of reasons for compiling such a book, seeing that his very life depended upon its excellence. "Xrayser II" adds "alias Talbot" after Kelley's name, as though the question of identity was certain. It rests purely upon the statement of Anthony à Wood. The latter is admittedly an excellent authority, but I submit that, in view of the lack of confirmatory evidence, a note of

certitude is unwarranted. The question of Dr. Dee is in a different category, and I think "Xrayser II" is totally unjustified in his view of him as an impostor, for which view, I submit, there is not a shred of evidence. Thanking you in anticipation for according these remarks the hospitality of your pages.

Yours faithfully,
H. STANLEY REDGROVE, B.Sc., A.I.C., F.C.S.
London, N.W.1.

SIR,—With reference to the remarks of "Xrayser II" in THE CHEMIST AND DRUGGIST (March 15, p. 375) concerning my letter on alchemy, I still maintain that Redgrove's book does tell us more about ancient alchemy and chemistry than was contained in Bell's article. "Xrayser II" entirely misunderstands me when he says that I appear only just to have heard of its (alchemy's) psychological origin. What I wrote was that Redgrove, "for the first time, so far as I am aware, indicates the psychological origin of the underlying assumptions of the alchemists." It is a pity that "Xrayser II" only knows of Hitchcock's "Remarks on Alchemy and the Alchemists" at second hand. Otherwise he would appreciate Hitchcock's theme, which is that the alchemists were mystics pure and simple; but, with Mr. Redgrove and other English writers, I am of opinion that a study of their lives does not substantiate this. Their useful discoveries in chemistry and pharmacy are also not in keeping with this theory. I should also like to know upon what evidence "Xrayser II" bases his conclusion that Dee was an inspector.

Yours faithfully,
GERALD DRUCE, M.Sc.(Lond.), R. Nat. Dr. (Prague).
Balham, S.W.

Bottles for Non-Statutory Poisons

SIR,—Mr. Sutcliffe, in his remarks at Bradford (*C. & D.*, March 22, p. 403), said that it should not be necessary to remind pharmacists that all poisonous substances intended for external use should be placed only in bottles distinguishable by touch. Now, I do not wish to be accused of preaching expediency, but what is a pharmacist to do? Take one of the commonest things sold over the counter for external use, camphorated oil; the public, especially in poorer neighbourhoods, bring all kinds of receptacles for this. Not being a statutory poison, there is only a moral argument to back one's convictions; and moral arguments carry no weight with a poor person who is asked to pay twopence extra for a poison-bottle. Even if persuaded to pay it, it is almost certain that he would go home and empty the liniment into a beer-bottle, bringing the poison-bottle back to the pharmacy with a demand for his twopence. Mr. Sutcliffe further said that he was in the habit of calling on pharmacists when on holiday. Perhaps my experience has been unfortunate; I used to do so at one time, but I was never welcomed, sometimes tolerated, and once abused; once I wished to make an adjustment to my camera, and, introducing myself, used the dark room for less than five minutes, and paid a shilling for the privilege; another time I required a simple mixture, and was charged more than I can get from my own customers. I have now discontinued the practice.

I am, etc.,
UNWELCOME (24/3).

Propaganda by Broadcasting

SIR,—I was very interested, in view of my recent letters, to see the reports of the meetings of the Dental Board (*C. & D.*, March 22, p. 402), particularly the part headed "Propaganda." Item 5 reads, "That the British Broadcasting Company be advised that it would be expedient to include in their programme 'talks' on the importance of the care of the teeth." If broadcasting is good enough to advertise dentistry, it is also good enough to boost pharmacy; and I hope yet to hear the pharmacists' talk coming over the aerial.

Yours truly,
E. BONIT (25/3).

Legal Queries

G. L. G. (24/3).—The requirements for first-aid cases for factories are laid down in the Order (see *C. & D.*, January 12, p. 59), and in all cases include a bottle of cocaine eye-drops. Without the eye-drops a first-aid case would not comply with the Order.

F. A. H. (21/3).—The regulations dealing with the purchase and supply of "dangerous" drugs in public institutions are summarised in *The Chemist and Druggist Diary*, 1924, p. 258. If there are any further details you require we shall be glad to supply them.

H. E. C. (20/3).—No German trade-marks that were avoided during the war have been restored to the Register of Trade Marks. The name urotropin is public property, but pyramidon, veronal or trional have never been avoided, and so far as we know are still on the Register.

W. & H. (24/3).—The definition of a factory was given in the *C. & D.*, January 12, p. 50. From this you will see that the employment of mechanical power is essential to the definition of a factory. If "workshops" are to be included a special order will have to be made.

W. F. (21/3) has three trees in his garden, the branches of which overhung his neighbour's land. Without asking "W. F.'s" permission the neighbour has cut off the branches level with the dividing wall. Was he justified in doing this? [The neighbour was acting within his legal rights in cutting off so much of the branches as actually overhung his property.]

H. M. (18/3).—(1) The name of the insured person on a prescription ordering "dangerous" drugs should be correct, and in the case you mention it should be sent back to the doctor for correction. It must not be forgotten that Insurance prescriptions go out of your hands into the keeping of the Insurance Committee and are open to inspection by the police; hence they should be scrupulously in order. (2) A medical man may order methylated spirit in a lotion if he so desires it.

Scotia (21/3).—It is irregular for a wholesale house to supply a doctor unknown to them or their representatives with "dangerous" drugs. It should, however, be borne in mind that the medical man's authorisation differs from that of the chemist's. The latter must be carrying on business or otherwise authorised, while the medical man *per se* is an authorised person. The irregularity in the case you mention is in the supplier being ignorant of the author of the requisition. It appears from what you write a *bona-fide* transaction, but the firm, before supplying, should make sure, and in case of doubt may be liable to the savage penalties of the Dangerous Drugs Acts.

K. L. (22/3).—(1) It is not necessary for a chemist or company carrying on business in accordance with the Poisons and Pharmacy Act, 1908, to apply for a licence to sell cocaine eye-drops to duly-authorised factory owners or their accredited agents. (2) You cannot make the eye-drops with cocaine hydrochloride, as the salt is not soluble in castor oil. (3) "Dangerous" drugs, when used in preparations less than the legal limit, do not require to be entered in the registers kept in accordance with the Dangerous Drugs Act Regulations or the poisons book kept under the Pharmacy Acts. Such preparations require labelling "Poison," and, so soon as the new labelling regulation comes into force, will need to state on the label the proportion present.

Appreciations

Your plates of medicinal plants are about the finest pictorial reproductions of their kind that I have ever seen.—*J. F.* (3/3).

I have pleasure in sending you cheque for renewal of the *C. & D.*, and wish to express my appreciation of the value of services rendered through your journal.—*H. L. W.* (22/2).

Miscellaneous Inquiries

When samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for and how. We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

M. V. T. (6/3).—(1) Borax solution would not replace lime water in the manufacture of limes and glycerin, as it would not form a soap with the oil. (2) ANALGESIC BALSAM.—The following will, we think, suit your purpose :

Methyl salicylate	...	...	3 <i>v.</i>
Menthol	...	...	3 <i>i.</i>
Eucalyptol	...	...	3 <i>i.</i>
Oil cajuputi	...	...	3 <i>i.</i>
Ung. dur. alb.	...	ad	3 <i>xv.</i>

The last-named ingredient consists of equal parts of white beeswax and hydrous wool-fat.

G. W. A. (25/2).—(1) HEEL-BALL :—

Carnauba wax	...	...	4 lb.
Tallow	...	...	4 oz.
Ivory black	...	...	½ lb.
Gum arabic	...	...
Sugar candy	...	of each	4 oz.

Melt the tallow and incorporate the ivory black, powdered gum and sugar candy so as to make a smooth paste; then add to the melted carnauba wax.

(2) BOOTMAKER'S CEMENT :—

Raw guttapercha	...	...	1 oz.
Carbon bisulphide	...	...	5 oz.

Reduce the gutta percha to small fragments and dissolve in the carbon bisulphide by prolonged shaking, then add :

Resin	½ oz.
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G. Y. (15/3).—HAIRDRESSERS' ANTISEPTIC.—The antiseptic used by hairdressers for hair-brushes, combs, razors and shaving-brushes is lysol, of which many good makes are on the market. It is used for this purpose of a strength of 1 per cent.

D. S. B. (11/3).—The half-guinea subscription for student associates of the Pharmaceutical Society is voluntary and does not refer to registration as students. It gives students the right to receive the "Journal" quarterly, to use the library and premises, and to call themselves students of the Pharmaceutical Society. Registration as a student or apprentice is a thing apart, and once made cannot be revoked by not continuing to pay the annual voluntary half-guinea.

Retrospect of Fifty Years Ago

Reprinted from
"The Chemist and Druggist," March 14, 1874

Coca

At the evening meeting of the Pharmaceutical Society on March 4 a specimen of coca was exhibited, which had been contributed by Mr. Sieveking. In reference to this Professor Bentley remarked that coca, the botanical source of which was *Erythroxylon coca*, had recently been recommended in this country by Dr. Sieveking as a new medicinal agent. Attention was first called to it by Spence, well known for his travels in South America, who described the leaves as being chewed by the natives, who attributed to them the most extraordinary properties. It was asserted that, by their use, a person was enabled to go a considerable time without food, and an enormous quantity was used in South America, as much, according to Johnston, as 30,000,000 lb. annually. Other writers did not speak so highly of it as Mr. Spence; but there was no doubt it did possess some very powerful properties, not serving as a food, but still allaying the feeling of hunger. It was also used by mountaineers, who said it enabled them to reach high elevations without difficulty of respiration. Like most substances used in this way, it had injurious narcotic effects upon the constitution; and a new base had been discovered in it, to which the name of cocaine had been given. Coca had been used for some time on the Continent as a remedial agent, and to some degree in England; and several years ago he had called attention to it as being worthy of an extended trial.

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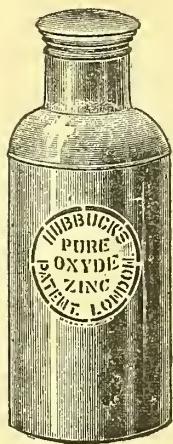
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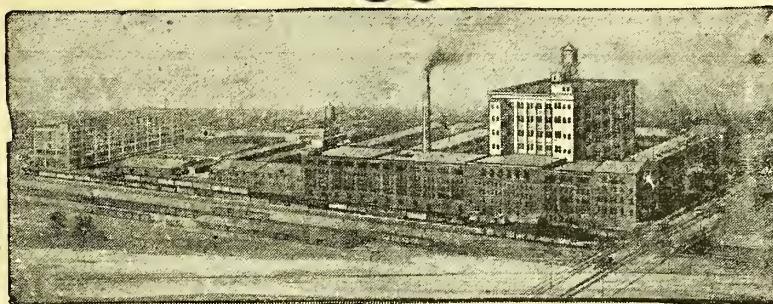
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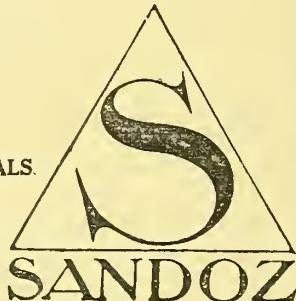
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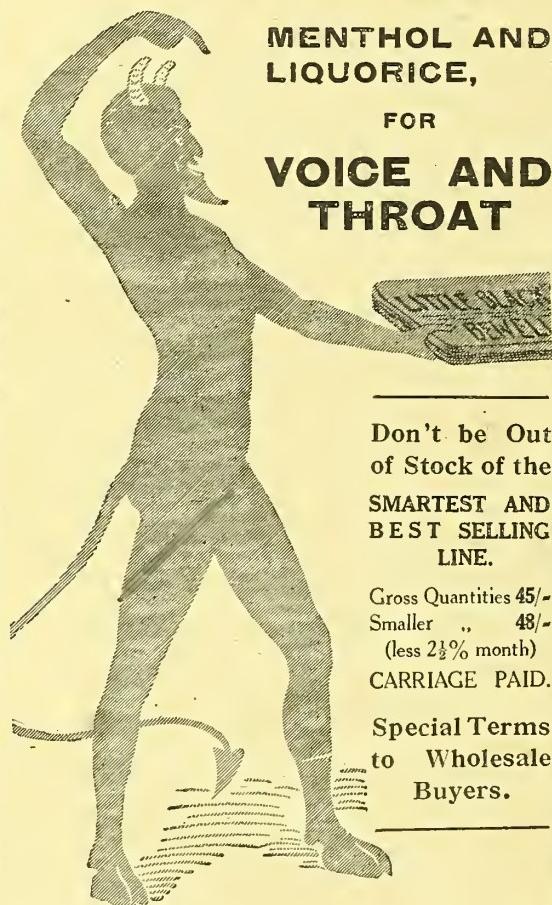
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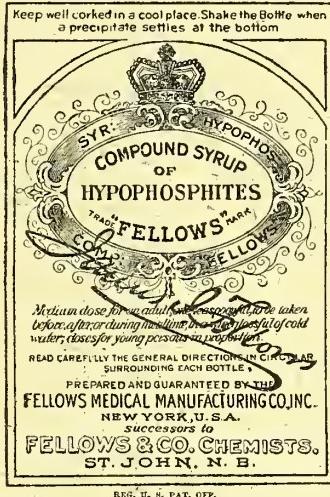
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All Wholesale Houses keep a large stock of our Preparations and can supply smaller orders promptly.

Minimum Retail Selling Prices: 1/-, 1/3, 3/-, 5/- & 12/- Face Value, giving a PROFIT of 33½% on cost to Distributors.

An attractive Showcard and Dummies supplied on application.

Trade Mark: "BLOOD MIXTURE." Regd. No. 3275.

Sole Proprietors:

THE LINCOLN & MIDLAND COUNTIES DRUG CO., LTD.
Park Street, LINCOLN.

Dr. BENQUE'S BALSAM

RHEUMATISM, NEURALGIA, GOUT.

PULMO (BAILLY).

FORXOL AND HEMOSTYL.

DR. BENQUE'S ETHYLCHLORIDE.

ANESTILE.

NARCOTILE.

WRITE FOR
SPECIAL TERMS.

Dr. BENQUE & Co., MFG. CHEMISTS,
52 CHARLOTTE ST., LONDON, W.I.

CONTRALUESIN

A Colloidal Emulsoid of
MERCURY amalgamated with GOLD



Supplies, Literature & Clinical Records obtainable from:-
Featherstone Hammond Partners Limited,
28 VICTORIA STREET,
LONDON, S.W.1
TELEPHONE VICTORIA 5836.
TELEGRAMS: "FEATHAMPA," LONDON

IDOZAN

In response to the persistent demand for a smaller size of this remarkable Iron preparation, we are now issuing in two sizes, viz.: 4 oz. and 8 oz.

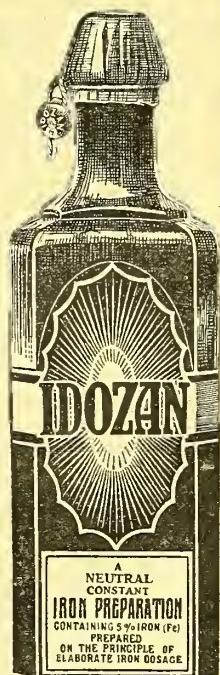
Retailing at
3/- & 5/-
each.

Order your supplies through
your usual Wholesaler.

Chalybeate Chocolate is a Chemist's line. It is attractively packed in dustproof containers.

Retail 6d., 1/-, 2/-
25% profit.

CHAS. ZIMMERMANN & CO. (Chem.), LTD. Medical Dept.
9-10 ST. MARY-AT-HILL, LONDON, E.C.3.



Petroleum Jelly

White, Yellow, Amber,
& Ruby Red, for all
Pharmaceutical and
Veterinary purposes

MEADE-KING, ROBINSON & CO., LTD.
LIVERPOOL - LONDON - MANCHESTER - LEEDS.

THE METHYLATING Co., LTD. for METHYLATED SPIRIT.

KINNAIRD HOUSE, Pall Mall East, LONDON, S.W.1.

Telephone: Regent 5621.

Telegraphic Address: "Methcolim, Phone, London."

PETROLEUM JELLY.

Gough, Kidston & Co.

Chemical Manufacturers,

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Tel. No.:
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Tel. Add.
"Kidstonism,
Bilgate, London."

43/45 Gt. Tower Street, London, E.C. 3

WORKS:
BERMONDSEY;
Tel. No.: Hop 2029.

**THE STANDARD
OF PURITY
STERNS
LIQUID
PARAFFIN B.P.**

Colourless, Tasteless, Odourless.
All Specific Gravities.

**PETROLEUM
JELLIES B.P.**

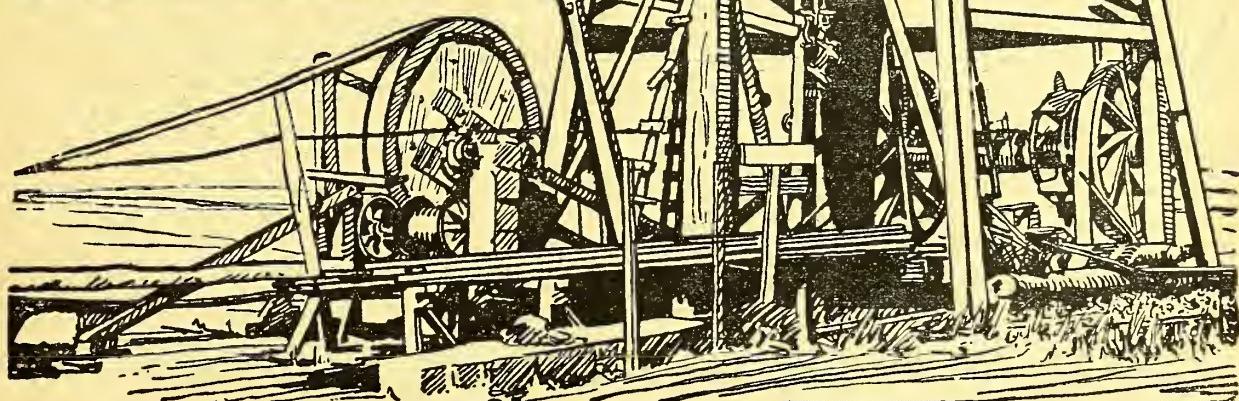
White, Lemon, Yellow, Amber,
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**WHITE AND
COLOURED OILS**

Yellow, Green, Red for
Brilliantine, etc.

Wholesale and Export only.

STERNS LTD.
80 ROYAL LONDON HOUSE,
FINSBURY SQUARE, E.C.
19 WATERLOO ST., GLASGOW.



The Power of Personality

HOW easy it is to distinguish individuality, force of character and other points that make a man such a power among his fellows!

If these forces are so apparent in the individual how true it is to apply them to the things in common use!

Most products are known by their distinctive label, in fact the carton or wrapper has played an important part in establishing them in the market.

Let us help you to add that tone and dignity that will make your article tower over its competitors.

ALF. HARRISON AND SONS

CHEMISTS' PRINTERS,
Folding Box Manufacturers,
Advertising Matter of every
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Write for Samples and Prices.

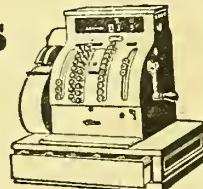
**224 BURLEY RD.
LEEDS.**

'GRAMS;
"IDEAS."

LIQUID
PARAFFIN B.P.
TOILET PARAFFIN
BRILLIANTINES
OLIVE OILS
HONEY
EUCALYPTUS OIL

Send your enquiries to
REDDGRAVE BUTLER & CO., Ltd.
Park Lodge,
Forest Lane, Stratford, London, E.15

Opportunities for Retailers



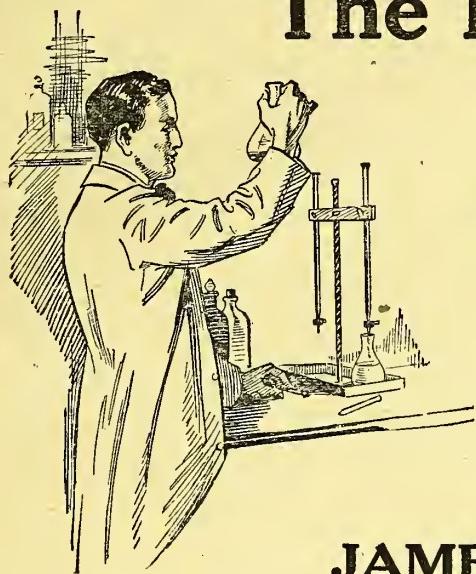
We often take back used
Cash Registers when
customers are installing
larger or more up-to-
date machines. These
National Cash Registers

Thoroughly Overhauled and Rebuilt

are sold under the
Company's full guarantee
at reduced prices.

Write for details of "Nationals" available:—
Dept. R.2, The National Cash Register Co. Ltd.
225 Tottenham Court Rd., London, W.1.

The Highest Standard of Quality



We invite your enquiries for

PETROLEUM JELLY
White
Yellow
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CASTOR OIL
FINEST COLZA OIL
LINSEED OIL

REFINED COTTON OIL,
EDIBLE
ROSIN
American
French
TURPENTINE
Genuine Ameri-
can Spirits
Substitute

SPERM OIL
NEATSFOOT OIL
OLIVE OIL
WHITE OILS
COD LIVER OIL
NUT OIL,
FINEST
Edible Arachide

LUBRICATING OILS of all descriptions

Wholesale only

JAMES ARNOTT & SONS, Ltd.

*Send for Prices and
Samples. Write us
soon . . . To-day—
Thank you!*

HEAD OFFICE:

47 Pilgrim Street
NEWCASTLE-ON-TYNE

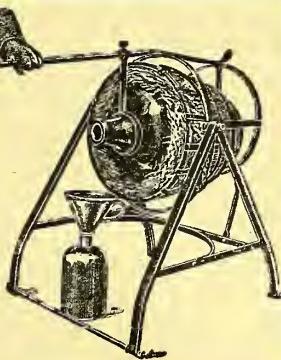


CARBOY STAND AND TILTER.

For drawing off small quantities of acids, etc. from Carboys, with ease and safety.

The Carboy can be tipped to any position with one hand.

R. & H. LEIGH & SONS,
LIMITED,
Carboy Hamper Manufacturers,
BOLTON.



SALVO PETROLIA

The Perfection of Petroleum Jelly

MANUFACTURED SOLELY BY
THE DEE OIL COMPANY, Ltd.
D 23/24, EXCHANGE BLDGS., LIVERPOOL.

Telephone: Central 3859. Telegrams: "Cestrian Liverpool."

Packed in barrels, kegs and smaller packages according to requirements.

Other Grades
PETROLEUM JELLIES, WHITE BASES, ETC

Samples and prices on application.

"OLEUM DEELINÆ," a certain cure for Eczema.

ADEPS LANÆ, P.B.

THE FINEST BRITISH LANOLINE PRODUCED

IS MANUFACTURED BY

THE PHARMACEUTICAL LANOLINE CO.
Carnwath Road, Fulham, London, S.W.6.

Telephone: Putney 42.

WHO INVITE ENQUIRIES. Telegrams: "Batao, Walgreen, London."



FARROW & JACKSON, LTD.

ESTABLISHED 1798



Earthenware

Filters.

THE Earthenware Filter as illustrated is specially designed for clarifying Pharmaceutical Preparations, Acids, Essences, etc.

No metal enters into the construction of the parts coming into contact with the Filtrate.

Please let us know your requirements, and we will gladly send you full details and prices, or our illustrated lists will be sent post free on request. Write for them NOW.

COMBINED MIXERS & SIFTERS

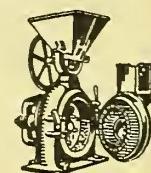
For CHEMICALS, COLOURS,
SOAPs, SPICES, CEREALS, &c.

Perfect construction and moderate price.

FACTORY COVERS 8,000 METRES.

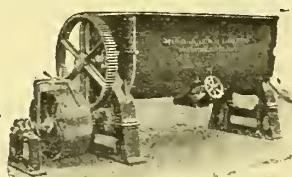
Send for Free Catalogue to—

ETABLISSEMENTS L. D. CLESSE
119 Rue Antoine Dansaert, Brussels, Belgium.



"ATLAS" PATENT MIXERS & SIFTERS

Combined or Separate Machines.

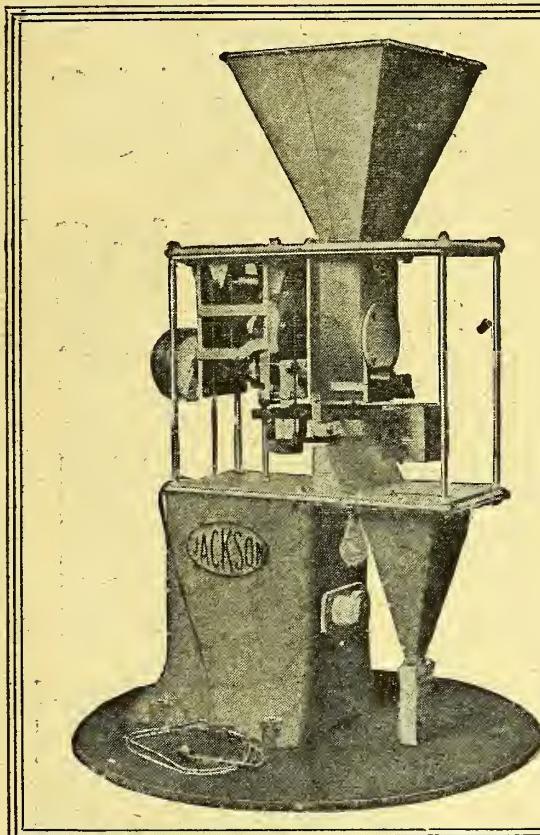


Absolutely up-to-date in every detail, strong, and most reliable machines on the market. Various sizes.

BALL MILLS

HIND & LUND, LTD.
ATLAS WORKS, PRESTON.
Telegrams: "Atlas Preston."

(3)



Speedy and Accurate
Packetting

To meet the requirements of the larger Chemists for packetting proprietary and other powders, etc., we have designed this compact and reasonably-priced **Weighing and Filling Machine**.

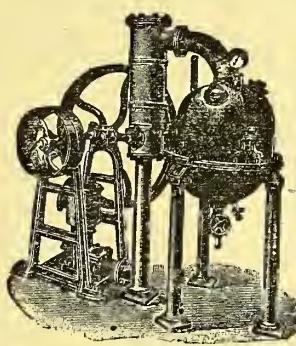
It is simply adjusted and easily cleaned, and has passed exhaustive tests and received entire approval of the Board of Trade, every machine sold bearing their stamp.

It takes up only two square feet of space.

Please send for illustrated leaflet.

Also Makers of the well-known JACKSON Patent Grinders

J. G. JACKSON, LIMITED
Coustonholm Works, Pollokshaws, Glasgow.
Telegrams. "Coustonholm," Glasgow. Telephone: Langside 1215
London Office: Clun House, Surrey Street, Strand, W.C.2.

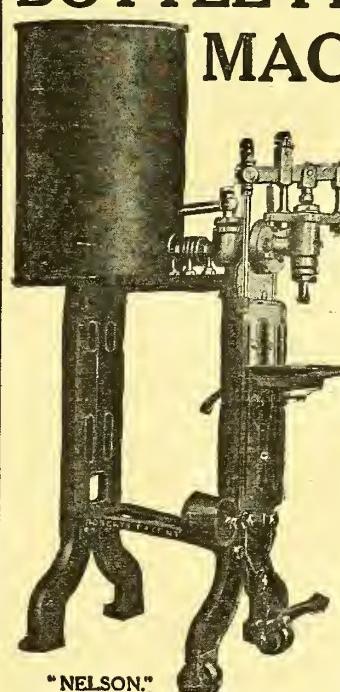


STILLS, VACUUM STILLS, VACUUM PANS.
EVAPORATING PANS.
AUTOCLAVES AND DIGESTORS.
SPECIAL APPARATUS AND PLANT FOR MANUFACTURING CHEMISTS.

SOLE MAKERS of BENNETT'S PATENT 'IDEAL' ANNULAR FILM CONDENSERS.
SHEARS' PATENT MULSER.

BENNETT, SONS & SHEARS, LTD.
ENGINEERS & COPPERSMITHS,
43 & 44 Shoe Lane, LONDON, E.C. 4.1

ROBERTS' ORIGINAL PATENT
BOTTLE-FILLING
MACHINES



Don't waste money on imitations, buy Roberts' Machines which actually Created the Records for

CLEANLINESS
SIMPLICITY
and Rapidity in Bottle Filling.

Write for new Price Lists.

NOTE the Address:
ROBERTS' PATENT
FILLING MACHINE CO.
33 ROUND CROFT ST.,
BOLTON.

Our latest patent "Alpha," price £12, will fill 10 gross bottles per hour.

Write for Particulars.
All Rights Reserved.

"NELSON."

Venesta Collapsible Tubes

Lipsalve Cases, Sprinklers, etc.

Made in Pure Tin, Lead, or Lead coated with Tin, Plain or Enamelled, and printed with designs to suit customers' own requirements

Manufactured by
VENESTA, LTD. 1 Gt. Tower St., London, E.C.3



P.A.T.A. NOTICE

18 Tavistock Square,
LONDON, W.C.1.

March 29th, 1924.

The following price revisions will take effect
on April 1st:—

Sparklets, Ltd.

Size.	M.R.P.	M.W.P.
Quart "C" Syphon (Electro-plated)	6/9	60/-
Pint "B" Syphon	5/9	52/6

Less 5% cash in 14 days, or less 2½% cash in 28 days
from date of invoice. Carriage paid on £3 lots.

SALE OF YADIL.

Messrs. CLEMENT & JOHNSON Ltd., proprietors of "Yadil," do NOT permit the sale of "Yadil" in other than the original packages. In this connection retailers are reminded that the following resolution, amending that of July, 1921, was passed by the Council of the P.A.T.A. at the meeting last October:—

"That, except where indications to the contrary appear in the Protected List, the breaking of bulk of individual packages of goods on the List be not permitted, and, if persisted in, will entail the stop-listing of the offender."

Cellophane.

What Is It?

Just try to imagine a pane of glass with the **flexibility** of Tissue Paper and you have Cellophane—the only **transparent** wrapping material, **absolutely** air, grease and odour proof, tasteless and **perfectly** innocuous.

An ideal **wrapping** for Soap, Drugs, Tablets, Bath Crystals, Perfumery, Surgical Dressings, Sponges, Articles of Toilet, etc., etc.

Cellophane can be had in sheets, all sizes and colours; also in the shape of **Bags**, **Discs**, **Envelopes**, printed or not, allowing the contents to be seen by transparency.

CELO-DRESSINGS. The only sterilisable dressing unaffected by time, heat and moisture.

Agents Wanted where not represented.

Prices, Samples and Particulars from

The CELLOPHANE COMPANY

7, 8 & 9 Bird Street, LONDON, W.1.



FAIRY DYES

Mean Greater Turnover for You—and Absolute Satisfaction for Your Customers.

THERE is no more attractive line on the market to-day—there is no better seller—and no article has made larger strides in popular favour.

FAIRY DYES

are now sold in glass tubes, encased in smart, clean-looking "safety-first" cartons. They are retailed at 2d. each, made in 25 popular shades and colours, and are extensively advertised in the right publications.

You can rely upon Fairy Dyes—for prompt delivery in any quantities—for fresh stocks—for quick, easy-to-handle, clean turnover, and as tried favourites your customers are always satisfied. See that you are supplied without delay.

For Trade Terms and particulars write to

FAIRY DYES, LTD.,

London Depot

61, WELL ROAD
GLASGOW.

292 UPPER STREET, ISLINGTON, N.1.

THE STAIN

TRADE MARK
MOVOL
Regd

REMOVER

The favourite!

MOVOL! There's the favourite. For some time ago your customers realised that Movol removed stains—in particular iron-mould—more swiftly—more easily than anything else—and always successfully. Read on for details of generous, permanent terms.



*Retails in 6d. and 1/- sized tubes.
Trade terms bring in a net profit of 38½%—5% more than from usual terms.*

♀

Edge's, Bolton

ACELTA
Caps your Bottles

(REGD.)

AS NEATLY AS ALL OTHER FORMS OF CAPPING—BUT AT LESS COST. WE CLAIM THAT "ACELTA" IS THE CAPPING SOLUTION WITHOUT AN EQUAL. A TRIAL WILL CONVINCE YOU THAT OUR ASSERTION IS NO IDLE BOAST.

TRIAL TIN (SUFFICIENT TO CAP 4 GROSS BOTTLES) PRICE 6s. 9d. POST FREE.

SPECIAL TERMS FOR LARGE QUANTITIES.

"ACELTA" CAPPING CO., LIMITED
185 Princess St., MANCHESTER.

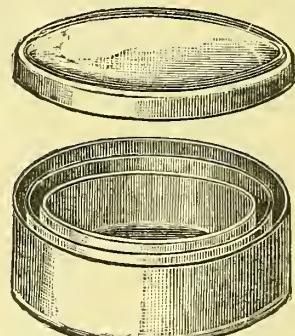
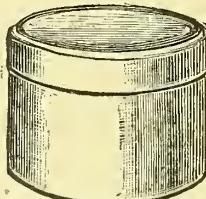
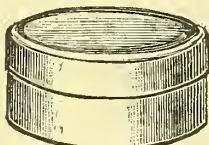
ALUMINIUM OINTMENT BOXES

Fill the gap between the chip box and the porcelain pot.
Try an assorted dozen. You will find them just what you want.

REDUCTION IN PRICES

PRICES (either shape, tall or flat):

Per gross :	$\frac{1}{4}$ oz.	9/-
"	$\frac{1}{2}$ oz.	12/-
"	1 oz.	16/6
"	2 oz.	27/-



(The 2 oz. tall shape is similar to the 1 oz. size but twice the height.)

Chemists everywhere are taking up the use of these for their preparations. Their light weight as compared with porcelain pots makes for much saving in regard to carriage, the nested ones being specially suited for export.

For large contracts special rates will be quoted.

CARRIAGE PAID ON ORDERS OF £3 AND UPWARDS.

A discount of 5% for prompt cash is allowed on all amounts of 10/- and upwards. Money returned if goods are not satisfactory. Write for New Price Lists of Druggists' Sundries, Toilet Requisites, Rubber Goods, Cut Sheet Rubber Appliances, etc.

BURGE, WARREN & RIDGLEY, LTD.

91 & 92 GREAT SAFFRON HILL,
LONDON, E.C.1.

Ask for "PAZO" (COMPRESSED) PILL BOXES

The most convenient and secure Pill Box obtainable.

NO LOOSE BOTTOMS.

Samples and Prices on application.

Obtainable from :—

Messrs. BUTLER & CRISPE, Clerkenwell Road, E.C.1.
Messrs. BARCLAY & CO., Ltd., 95 Farringdon Street, E.C.4
Messrs. H. FLEMING & CO., The Pillars, High St., Dundee

or
THE "PAZO" CO., Oldbury.

Makers of MACHINE-MADE PAPER BOXES, SPOOLS, &c.

BOXES TO MEET ALL REQUIREMENTS

for the Chemist, Druggist and Sundriesman

No order too small. No order too large.
Send your Sizes or Samples and we
will quote by return. We KNOW
how to meet your wishes, and will
satisfy you in every way.

J. DAVIDSON, 98 SHEPHERDESS WALK,
CITY RD., LONDON, N.1

Telephone: Clerkenwell 6878.

CORRUGATED PAPER BOXES AND PACKINGS FOR ALL PURPOSES.

Corrugated Paper in Rolls, Boxes, Pieces, Partitions, Cartons, Bottle Wrappers. Tinted.
Waterproof Papers, Gummed Papers, Tapes, &c. Toilet Rolls.

Enquiries CORRUGATED PACKING MATERIALS CO., Ltd.
Solicited. AMBROSE STREET MILL, WEST GORTON, MANCHESTER. Phone: Openshaw 401.
Grams: "Corrapaper, Manchester."

GOODALL'S

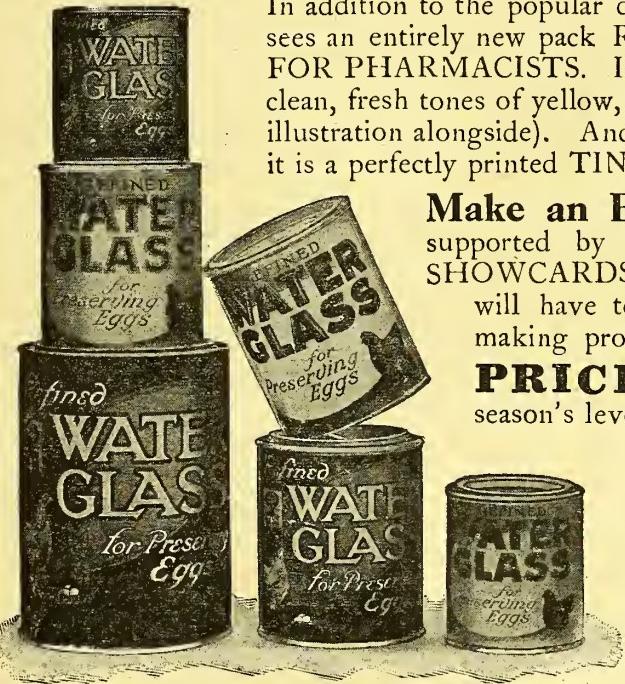
—the WATERGLASS Pack

for CHEMISTS.

THE FINEST PACKS.—KEENLY PRICED.

WHETHER it's perfumery or Waterglass, you know how greatly the speed and ease of sales depend on the good looks of the pack—and that is where GOODALL'S WATERGLASS scores. Our Waterglass looks what it is—a pack for the high-class, critical, pharmaceutical trade. And yet, such is our Waterglass turnover, our pack costs you no more than the cheap-looking kinds.

In addition to the popular designs of last year, this season sees an entirely new pack RESERVED EXCLUSIVELY FOR PHARMACISTS. It is a rich, sell-at-sight design in clean, fresh tones of yellow, red and white (upper design in illustration alongside). And of course, like all our packs, it is a perfectly printed TIN—not a leaky container.



Make an Early Season's display—supported by the strong, expensive, selling SHOWCARDS we supply FREE, and you will have to re-order two or three times, making profits all the time.

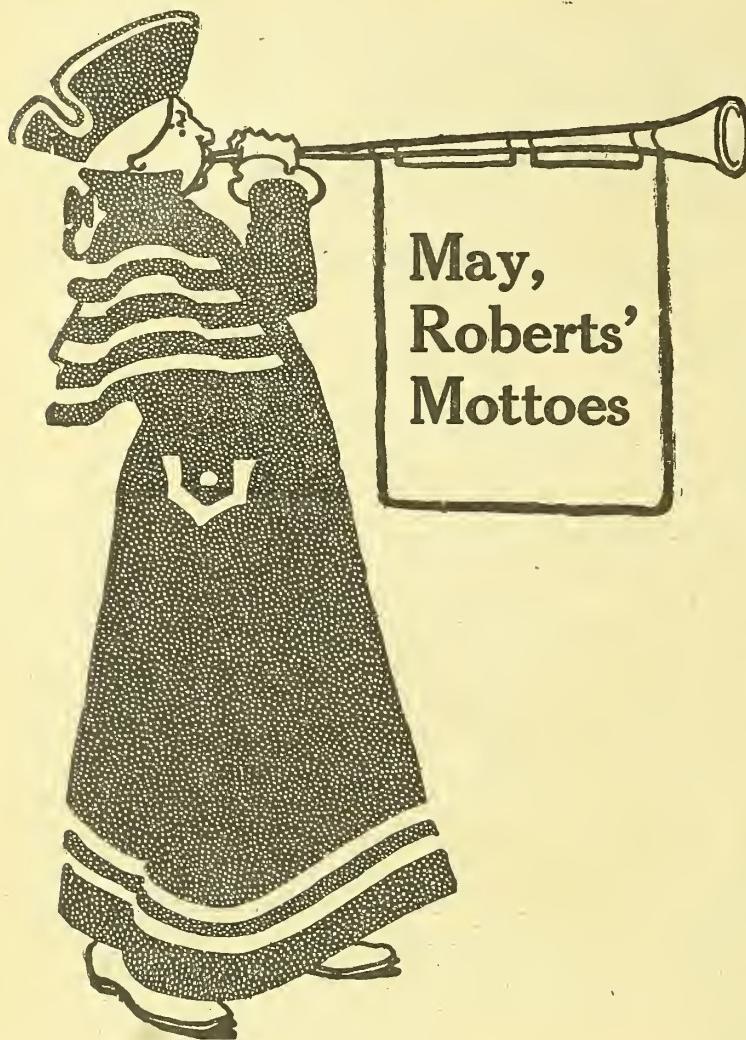
PRICES are now fixed at the lowest season's level, and will be gladly sent you, along with colour photograph, on receipt of a card stating your expected season's needs. Or, to save time, perhaps you will kindly look up the coloured illustration of our packs in our Inset in the 1924 "C. & D." Diary.

At any rate, for your own protection,

Let us send you our PRICES.

1924 GOODALL'S
is going to be WATERGLASS year.

GOODALL, BACKHOUSE & CO. : LEEDS.



May, Roberts' Mottoes

"To carry conviction,
you must be yourself
convinced."

The finest advertising force is recommendation, one word of recommendation founded on experience carrying more weight than columns of self-praise.

Lest it might be thought that May, Roberts' trumpeter is dead, listen to what one of our customers, whose pharmacy is 123 miles from London, says :

"I should like to mention that I sent you an order on the 8th for 89 items. The goods were delivered here early on the 10th."

Nothing that we can say would add to the persuasive power of this pithy testimonial. What the retail Pharmacist pays for when he goes to the Wholesale Distributor is celerity of working, freedom from omissions, and lowest prices, and you get what you pay for if you go to May, Roberts.

This testimonial is but one of hundreds which we can show you at Clerkenwell Rd., but if you cannot call, send us a post card for the most complete Catalogue of Druggists' Sundries in existence, and with this before you, write out a test order and convince yourself.

Our supply of lists is running low, so write the post card now.

May, Roberts & Co., Ltd.

7/13 Clerkenwell Road, London, E.C.1.
And at - - - Dublin, Liverpool and Plymouth.

THE CHEMIST AND DRUGGIST

SUPPLEMENT

42 CANNON ST.
LONDON E.C.4

MARCH 29, 1924

This Supplement is inserted in every copy of The Chemist & Druggist.

FURTHER TESTIMONY

In the morning's post of March 25th two letters came together. One pharmacist wrote:—

"When I advertised a certain article in your Supplement of last week for sale I must admit I did not expect such a ready response as I have obtained, all mentioning your valuable initials (C. & D.). The most distant replies from here were from Oban, N.B., also Aberdeen and Edinburgh (2), with Llandudno, Lowestoft and Tramore (near Waterford, Irish Free State). I sold the article to the first fellow-pharmacist who applied, and he is well pleased." (J.C. 263.)

The other said:—

"From an announcement three weeks ago I had from a Business for Sale advertisement 35 replies." (A.B. 261.)

Even in these difficult times no one asserts that advertising in THE CHEMIST AND DRUGGIST Supplement does not pay.

CLOSING FOR PRESS.

ALL ADVERTISEMENTS INTENDED FOR
INSERTION IN THIS SUPPLEMENT

MUST REACH US
NOT LATER THAN

FIRST POST THURSDAY MORNING.

CHEMISTS' TRANSFERS.

Messrs. Orridge & Co., 56 Ludgate Hill, E.C.
Telephone No.: CITY 2283.

May be consulted at their Offices on matters of Sale, Purchase and Valuation

1.—LONDON, S.E.—General Retail Business, with N.H.I. Dispensing and Kodak Agency; returns approach £5,000 per annum; gross profit, between £1,000 and £1,100; double-fronted corner shop, large windows, well fitted pharmacy, fully stocked; 8-roomed house; vacant possession; yard and garage; rent £75 per annum; held on lease; price £2,200; this business is thoroughly genuine and is easily worked.

2.—LONDON (Central).—General Retail and Dispensing Business, situate in close proximity to large Railway Station; returns, £2,500, at good prices; the pharmacy is well fitted and fully stocked; lock-up shop; held on lease at a rental of £90 per annum; Vendor's private house in desirable suburb may be had; price to be arranged.

3.—LONDON, N.W. (Suburban).—Developing and Printing Business, with small amount of General Retail trading; returns, £12 weekly, with scope for large increase; small lock-up shop, with 3 store rooms; held on long lease; no reasonable offer refused; part payment entertained.

4.—NORTH LONDON.—Neglected Business, General Retail, with large N.H.I. Dispensing connection; returns, £2,500 under management, with scope for considerable increase; the premises are held on lease at a moderate rental; further details on application.

5.—BEDFORD PARK (Near).—General Retail and Photographic Business; returns, about £3,000 per annum; net profit, between £750 and £800 per annum; lock-up shop, held on lease at low rental; valuation terms entertained; part payment to suitable successor.

6.—SOUTH COAST.—Dispensing and Photographic Business; returns, £2,000 per annum, increasing; gross profit, 45 per cent.; large double-fronted shop, handsomely fitted and well stocked; held on long lease at a rental of £100 per annum; further details on application.

7.—NORTH OF ENGLAND.—Mixed Country Retail Business for disposal, through dissolution of partnership, producing a net income of £360 per annum; capable of increase under energetic management; new lease will be granted at moderate rental; price £450.

Messrs. O. & Co. desire to emphasize the necessity of a periodical Statement of Account by which means alone Profit, the value of Business, &c., can be determined. Involving as this does the labour of Stocktaking and Valuation, it is often omitted and eventually becomes confusion and loss.

8.—MARKET TOWN (Midlands).—Progressive Cash Retail Business, situate in main street of important town; price £2,000; further details will be furnished on receipt of a banker's reference.

9.—CORNWALL.—Unopposed Business, with Kodak Agency; returns, present rate, £25 to £27 weekly; net profit, 25 per cent; estimated value of stock and fixtures, £600; lock-up shop, with store rooms; rent, £40; held on lease; price £550.

10.—CHESHIRE.—For disposal through ill-health, General Retail Business; increasing turnover; present, rate, about £1,820 per annum; net profit, 27 per cent.; spacious lock-up shop, fitted in mahogany; Vendor estimates value of stock and fixtures at £1,250; rent, £50; held on lease; price £1,500 cash.

11.—MIDLANDS.—General Retail Business; capable of extension with the addition of Photographic and Prescribing; returns, about £1,400, at full prices; small, single-fronted shop, well fitted and stocked; property may be purchased, or 21 years' lease will be granted at a rental of £55 per annum; nearest opposition, ½ mile; price £650.

12.—SOUTH WALES.—Mixed Business, with Kodak Agency; established 30 years; returns, £35 weekly; lock-up shop, with Optical room and room used for Photographic purposes; stock not less than £800; price £1,340, or man with view to succession would be considered, £500 down forthwith.

13.—EAST COAST (Near).—General Retail and Dispensing Business, with Kodak Agency; returns, £32 weekly; increasing, at good prices; the freehold must also be purchased; nice house, private entrance, garden, and store; price of property, £1,600; price of business, £1,050.

14.—LANCASHIRE COAST.—Middle-class Retail and Dispensing Business, with Kodak Agency; returns average £20 weekly, at good prices; double-fronted corner shop, well fitted in mahogany; convenient house; held on lease at a rental of £50 per annum, practically unopposed; price £750, or near offer.

Valuations for Stocktaking

Messrs. O. & Co. are prepared to undertake these essential duties and make Special Terms for such services

ORRIDGE & CO., 56 LUDGATE HILL, LONDON, E.C.4

The Association of Mfg. Chemists

— LIMITED —

Business Agency Transfer and Valuation Department.
Head Offices : 26-28 Kimberley House, Holborn Viaduct,
London, E.C.1 (and at 2 Bixeth Street, Liverpool).

PARKIN S. BOOTH, Accountant and Valuer.
(TELEPHONE : CITY 6942-3.)

1.—LONDON, N.W.—Good-class residential suburb. Old-established Family Retail and Dispensing Business; returns, £3,000 p.a.; gross profit, 40 per cent.; great scope for considerable increase; well fitted pharmacy, with dwelling accommodation; held on very advantageous lease for 21 years at a rental of £175 p.a. Price £2,500, or near offer. (110)

2.—LONDON, S.W.—Nicely-fitted and well-stocked Pharmacy (Drug Stores); low rental and good lease; returns, about £1,000; qualified man could easily double; possession of good house on completion of purchase; price £850. (101)

3.—LONDON, N.—Good-class Suburban Business; established 30 years; returns, £1,000 p.a.; scope for great improvement; premises consist of lock-up shop, well-fitted pharmacy; price £550. (112)

4.—POPULOUS SUBURB.—Retail Dispensing Business; returns average £30 p.w.; convenient lock-up premises, held on lease 14 years, at rental of £110; good scope for business under personal supervision. (114)

5.—RIPON, YORKS.—Established 1720; in present hands 18 years; Family Retail and Dispensing Business; returns, £1,500; could be considerably increased; premises consist of 2 shops, one let off on lease £60 p.a.; warehouse and good dwelling accommodation, with vacant possession. Purchaser can acquire property, and £1,000 can remain on mortgage at 5 per cent. Fullest information supplied, and reasonable offer accepted for quick sale. (99)

6.—YORKS.—Sound Cash Business; turnover, £900 per annum; N.H.I. and Prescribing; living accommodation if required; very low rental; excellent opportunity for beginner, as there is undoubtedly scope for increasing trade; price £500. (95)

7.—YORKS.—Small Family Dispensing and Photographic Business; recently established; returns average £14 p.w.; premises, which are held on weekly tenancy, consist of lock-up shop, with cellar. (113)

8.—MIDLANDS.—Recently established Dispensing and Photographic Business, returning £35 p.w.; well-fitted and good stock carried; premises consist of large shop, with 4 windows; stock and dark rooms; separate goods entrance; yearly tenancy at rental of £40; price £1,400. (108)

9.—DURHAM.—Dispensing Chemists; mining and shipbuilding town; established 50 years; returns now £19 p.w., could be doubled; low rental; possession of good house; good, sound business; price for quick sale, £385. (100)

10.—CHESHIRE.—Retail Family and Dispensing Business in important town; spacious premises—consist of lock-up shop; held on lease for 14 years, at £30; returns, £30 p.w.; good stock; large storage accommodation; price £1,550, or offer. (109)

11.—LIVERPOOL.—Old-established Family Retail and Dispensing Business; returns, £36 p.w., excluding N.H.I.; premises consist of lock-up shop and basement; held on lease for 10 years, at £65 p.a., inclusive; reason for disposal, proprietor entering Medical Profession. (105)

12.—CUMBERLAND.—Nicely-fitted and well-stocked Pharmacy; returns, £20 p.w., scope for increase; large double windows and Dispensary; price £550, all at. (103)

13.—BOURNEMOUTH.—Old-established Retail Dispensing Business. In present hands 30 years; returns, £1,669; premises consist of well-fitted shop in mahogany, stock room and dwelling accommodation, consisting of 5 rooms on 1st floor, 3 on 2nd floor, 2 cellars, long garden, and entrance for goods; lease, 14 years, £200; price £750; stock and fixtures at valuation. (93)

14.—SEASIDE RESORT.—Drug Store; no opposition; large double-fronted corner shop, with dwelling accommodation; held on lease for 7 years, with option of further 7, at £120 p.a.; rates approximately £12 p.a.; good scope for qualified man; conveniently fitted; turnover, £10 p.w.; price £300, or near offer. (106)

15.—SOUTH COAST TOWN.—Essence and Chemical Business for disposal; average turnover during last three years, £5,500; proprietors of several well-known lines; convenient premises held on agreement at a rental of £120 p.a.; great scope for development. (111)

16.—CORNWALL.—Old-established Dispensing and Photographic Business; returning, approximately, £1,500 p.a.; corner shop, fitted in mahogany, enclosed windows and York Glass bottles; 2 store rooms and well-fitted dark room; Kodak Agency and N.H.I.; excellent opportunity for live man; valuation entertained. (107)

17.—PROPRIETARY ARTICLE.—Well-known, useful line, suitable for mail order business. Proprietors would accept reasonable sum for quick sale. Fullest particulars on application. (115)

18.—LONDON, E.C.—Small Wholesale and Manufacturing Business; manufacturers of Cleaners; convenient factory premises held on lease; good scope with necessary capital for advertising and development. (96)

STOCKTAKING.—Perhaps it is too much trouble or you have not the time to spare. Then why not consult the Practical Firm who will do this work for you at a small inclusive fee, without interference with your work? For full particulars write as above.

BERDOE & FISH

WILLIAM S. FISH,

Valuers and Transfer Agents,

41 Argyle Square, KING'S CROSS, W.C.1

(One minute from St. Pancras and King's Cross Stations.)

1.—HAMPSHIRE.—Light Suburban Retail, with Kodak Agency; returns last 3 years average £22,000, under Manager; low rent; lease granted; well-fitted shop (lock-up) and good stock; price £1,250.

2.—GLOUCS.—Light Cash Drug Store, in large town; same hands many years; retiring; returns, nearly £1,000; plenty of scope; house available; own property; price £650, or £1,350 with freehold; mortgage on easy terms arranged.

3.—SURREY (8 Miles Out).—Light Suburban Retail Business, in growing district; good opening for N.H.I. and Photo; corner double-fronted shop, well fitted and stocked; good house, every convenience; very low rent; on lease; price £500.

4.—DURHAM.—Unopposed Light Retail and Agricultural; returns, £1,300; expenses small; growing district; modern pharmacy, well stocked; price £450.

5.—LONDON, S.E.—Profitable Cash Retail, with N.H.I., in densely populated district, and no near opposition; present returns, about £25 a week; scope for increase; price £650.

6.—EARL'S COURT.—Old-established Light Cash Retail; presents returns, £20 weekly; plenty of scope in qualified hands; premises sub-let at profit rental; valuable lease; price £625.

BUSINESSES WANTED.

We have several genuine buyers for a business showing a net profit of £1,000 a year or over in Midlands or South, and invite correspondence from intending vendors. Strictest privacy guaranteed. Also we are in want of smaller concerns; cash buyers waiting. Our Mr. Fish may be consulted daily on all questions relative to sale, purchase and valuation.

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We desire particularly to draw the attention of Colonial and Foreign Subscribers to the fact that in cases where they require partners, agents or assistants, or wish to sell their businesses, an Advertisement in this Supplement, placed in every copy of "The Chemist and Druggist," should be the readiest means of helping them to attain their object. The tariff for such announcements is given under the appropriate headings in the Supplement. Instructions and remittances can be sent to us direct or through the advertisers' correspondents in this country.

SALE BY AUCTION.

G. R.

By direction of the George Cohen and Armstrong Disposal Corporation.

**IMPORTANT
SALE BY AUCTION**
of
**HOUSEHOLD AND OFFICE FURNITURE,
MEDICAL STORES AND EQUIPMENT,**
will be held in the
**CENTRAL INSTITUTE, H.M. FACTORY,
GRETNNA,**
on

**WEDNESDAY, APRIL 2, 1924,
commencing at 11.15 a.m.,
comprising:**

FURNITURE—17 Oak Wardrobes, two sets of two and four Jacobean Dining Chairs, 340 W.B. Chairs, 200 Chairs, various, 200 Bedsteads, 3,500 sq. yds. Brown Lino, 150 Forms, 100 Chests of Drawers and Dressing Chests, 100 Tables, various, 35 small Oak Tables, one Grand and five Upright Pianos by Collard, Chappell, Erard, Payne, etc., Ratner Safe, 5 ft. x 2 ft. 7 in. x 2 ft. 8 in., Cupboards, Washstands, Lockers, Desks, Bookcases, Writing Tables, Chesterfields and Settees, Card Cabinets, seven rolls Coconut Matting, 40 Rugs and Mats, large quantity of Blue Band and other China, Cutlery, Kitchen Utensils, six Ax. Carpets, etc.

LABORATORY APPARATUS AND MEDICAL AND SURGICAL STORES, ETC.—8,000 Bottles; stoppered and unstoppered (wide and narrow mouth); 1,600 Thermometers, various; 14,000 Rubber Corks, various; 1,500 Glass Flasks, various; 3,000 Glass Tubes, various; large quantities Splints, Bandages, Forceps, Spatulas, Probes, Syringes, Tourniquets, Douches, Catgut, Ligatures, Sprays, Masks, Scissors, Speculums, Gags, etc.; large quantities of Castor Oil, Liniments, Ointments, Camphorated Oil, Almond Oil, Bandages, Splints and Stretchers (contained in Hospital Cupboard), etc.

GENERAL STORES.—Quantity of Pipes, Bends, etc. On view March 29 and 31, April 1, and morning of Sale, by production of Catalogue, which may be obtained from the Auctioneers,

ROBERTSON & FOOTE,

104 WEST GEORGE STREET, GLASGOW.
Telephone: 3736 Douglas.

NOTE.—As the exposures will be held in the Central Institute, buyers are requested to inspect the various lots before the Sale. The Central Institute is about 10 minutes' walk from Gretna Green Station (L.M. & S. Rly.). Motors run regularly to Gretna from Carlisle.

BUSINESSES WANTED.

SOUTH or South-West Counties preferred.—Wanted, genuine Light Cash Retail Business; small modern house attached; favourable lease necessary; in good working or middle-class district; cash ready; must bear investigation, and show net profit £425 per annum; alternatively would pay £10 for information (acted upon) suitable premises and locality. Replies to 154/38, Office of this Paper.

GOOD Business wanted, on or within 20 miles of coast, Devonshire or Cornwall; returns, £1,200 to £2,000. Particulars (in confidence), stating living accommodation, to 166/8, Office of this Paper.

AGENCIES.

A WELL-ESTABLISHED firm of Toilet Sundriesmen desire Agency for French or English high-class goods, including Hair, Tooth and Toilet Brushes, Combs, etc. Full particulars to North of England Advertising Agency, 148 Westgate Road, Newcastle.

A ADVERTISER, working with own car, Eastern Counties and Midlands, is open for one or two good lines. 161/38, Office of this Paper.

A GENT wanted to take up additional line; territory, South Wales and Potteries (either or both); line already known; good commission to capable man. Apply 41/335, Office of this Paper.

A GENTS, U.K. and abroad, required, commission basis, calling on Confectionery, Mineral Water, Biscuit trades. Lines already introduced. "Essential," 42/341, Office of this Paper.

BUSINESSES FOR DISPOSAL.

6s. for 50 words or less; 6d. for every additional 10 words or less, prepaid.

DURHAM.—Colliery town, pop. 7,000; Dispensing and Prescribing Business; in present hands 17 years; returns much reduced owing to ill-health of Proprietor; capable of great increase; small house attached, at present used for business; property owned by Vendor; £500 or near offer; stock and fixtures at valuation, about £500; excellent opportunity for live man. Marsden, Chemists' Valuer, 44 Sholebrook View, Leeds.

LANCASHIRE.—A newly-opened shop, which will in twelve months be a splendid living, offered for less than value of stock and fixtures; qualified lady in charge; single man or widower, as it's a lock-up; stock, £100, can be purchased and fixtures hired; 10 other shops and Doctor's surgery in this shopping centre; or cash price £225; health reasons for sale. 165/20, Office of this Paper.

LONDON, S.E..—Genuine Business in a residential locality, returning close on £3,000; corner shop; fully stocked; excellent window enclosures on both sides; easily and cheaply worked; Kodak and Rexall Agencies; good Optical nucleus, with fully fitted sight testing room; 8-roomed residence; sunny aspect; rent £75; lease about 12 years to run; price £2,200; every investigation courted. "Genuine," 164/1, Office of this Paper.

LONDON, S.E..—Good Retail Business; Panel, under management, £1,250, easily doubled by a worker; lease 14 years; price £650 for quick sale. "Rhei," 165/13, Office of this Paper.

NORTH WALES.—Working-class district. Cash Retail, with large N.H.I. and Wine Licence; taking £20 weekly, with scope for increase; expenses low; genuine bargain; small flat above can be let off; £700, or near offer. Particulars on application. 165/25, Office of this Paper.

SOUTH WALES COAST.—An old-established Chemist-Optician's Business for Sale; large well-stocked corner shop; Wines and Spirits Off-Licence; Gilbey's Agency; good Optical connection, with possibility of increase, also Photographic; large dwelling-house attached; separate entrances; freehold property, which can be bought or leased. Full particulars on application. 163/34, Office of this Paper.

A GOOD Surgical, Sundries, Drugs, Fancy Goods Business, also own Proprietaries, sold in over 100 Co-operative Society shops; immediate possession; vicinity near Manchester; owner's hands 14 years; death cause of selling; would suit qualified Chemist; property, stock, and household furniture; well fitted; good living accommodation; owner would teach buyer to fit surgical appliances if not experienced; sacrifice £1,000, or nearest. 41/333, Office of this Paper.

A PHOTOGRAPHIC Chemist Business for Sale; lock-up shop and store room and darkrooms and yard; good chance for branch or beginner; £100 down and the rest by easy instalments for quick sale; in London. Reply, by letter, to Thomas, 386 Clapham Road, Clapham, S.W.

FOR SALE, old-established Chemist's Business in South Wilts, close to permanent military camps. Apply Sydney G. Best, F.A.I., Avon Chambers, Salisbury.

SURGICAL Business for Sale in large industrial centre North of England; very suitable for Wholesale Drug House or Chemist doing business in this area; full particulars given. Apply 41/318, Office of this Paper.

Premises Wanted.

WANTED to purchase or rent House and Shop in populous district of Manchester where there is a good opening for a Chemist's Business; would consider lock-up shop, or would take over existing lease or purchase similar business outright; genuine. Write, stating full particulars, to Box 90, Pratt's, 57 Market Street, Manchester.

FOR SALE.

LAMP, 25 x 19, good condition; Dispensing Scales, Maws, good condition; Mahogany Case, upright, 26 x 28; 4 Shelves, ebonyed, also Desk, 30 x 23; Plate Glass, 56 x 33, 2-in. mahogany frame; Show Stand, mahogany, 3 shelves, 29, 36, 40, height 16 in; Glass Facia. 165/29, Office of this Paper.

PARTNERSHIP.

CHEMIST, with capital to invest, desires active Directorship or Partnership in any branch of the Wholesale Drug Business; first-class business experience at home and abroad in Wholesale and Retail; active, used to control, and initiative; bankers' and business references exchanged. Apply "Worker," 163/19, Office of this Paper.

NORTH London Pharmacy, paying concern, with plenty scope for improvement, seeks Partner with capital; a splendid opportunity for qualified Chemist. 42/339, Office of this Paper.

SITUATIONS OPEN.

[HOME.]

RETAIL.

6s. for 40 words or less; 6d. for every additional 10 words or less, prepaid.

ACTON, W.3.—Qualified Assistant required, age 25-35, with knowledge of Window-dressing and Photography; also qualified lady for Counter and occasional Dispensing. Apply by letter, stating salary and full particulars, A. E. Leng, 205 High Street, Acton.

BRIGHAM.—Qualified Junior Assistant for high-class business; good experience in Dispensing, Counter and Photographic essential. Send full particulars, stating salary required, to Hardcastle & Co., 71 East Street, Brighton.

BRISTOL.—Wanted, lady Assistant, Minor qualification, for N.H.I. Dispensing and Front Counter; easy hours; light duties; close at 7 Thursdays, and Saturdays 8, Wednesdays 1 p.m. State salary, experience, and reference, with photo, to Hedley Price, Ashton Gate, Bristol.

CARDIFF.—Robert Drane, Ltd., have a vacancy for a good Junior or Improver, at once (outdoors); best-class Dispensing and Family business.

CHICHESTER.—Good Junior, accustomed to Photography. State full particulars and salary required, Bastow, Pharm. Chemist, Chichester.

CROYDON.—Wanted, Junior or Improver in a Light Retail and Dispensing business, with some Photographic. Apply, with full particulars as to age, experience, salary required, etc., to J. Shaw, 304 London Road, Thornton Heath.

DEVON.—Junior Assistant required at once for good-class Family and Dispensing business, with thorough knowledge of Photography essential. Please state age and experience, with references and salary required, to Holman & Ham, Tavistock.

EASTBOURNE.—Wanted, two Juniors, one qualified; must be smart, energetic, accurate Dispensers, also good at Counter and Photographics. Apply, stating age, salary (outdoors), references, and enclose photo, Procter, 5 Station Parade, Eastbourne.

LONDON.—Capable, hard-working Junior required; to one anxious to give satisfaction a comfortable berth is offered with prospects of advancement. State age, experience, and salary required. "Jubilee," 163/20, Office of this Paper.

LONDON.—Junior or Improver wanted (male) for good-class business; accurate Dispenser and knowledge of Photography; outdoors. Please state height, experience and salary required in first letter. Bryant, 46 Turnham Green Terrace, Chiswick, W.4.

LONDON.—Energetic, qualified Male Assistant required immediately; must have thorough knowledge of Photography and be a tactful Salesman. Apply Shadforth Prescription Service, Ltd., 49 King William Street, E.C.4.

LONDON (Central).—Lady Assistant, outdoors, to put up stock and assist at counter; must have had good Counter experience in brisk General Retail Business (including Photographic). Apply personally, or if by letter give full particulars of total experience, age, salary expected, etc., Frizzell & Co., 53 New Oxford Street, W.C.1.

LONDON, S.E.—Qualified Assistant wanted, lady (outdoors), for quick Cash Retail; no Sunday duty; close 1 o'clock Thursdays. State age, salary required, and full experience. Brooks', 509 New Cross Road, S.E.14.

LONDON, S.W.—Wanted, Junior; outdoors; good Window-dresser and Counterman. State age, experience and salary required to 42/347, Office of this Paper.

MANCHESTER.—Junior Assistant, capable and energetic, unqualified, male, for brisk, good-class Retail and Dispensing Business. Full details of experience, salary required, etc., in first letter. J. S. Breese, Pharmaceutical Chemist, Rusholme,

PHOTOGRAPHS, TESTIMONIALS, &c.

When answering advertisements in this section applicants are strongly advised not to send (unless specially requested) ORIGINAL TESTIMONIALS or VALUABLE PHOTOGRAPHS. As can be readily understood, when an advertiser receives from 60 to 100 replies the task of returning photographs, testimonials, &c., is one of some difficulty.

MIDDLESBROUGH.—Arthur Enock, 201 Linthorpe Road, requires Assistant, either qualified or unqualified. Applicants please note following essentials: 1, Energetic worker; 2, first-class Window-dresser; 3, capable Salesman; 4, enthusiastic Photographer. Reference to these required in first letter, as also age, length of experience, and salary required.

MIDLANDS.—An experienced, competent Assistant, male, on door, for brisk Counter trade and N.H.I.; accurate Dispenser, good Window-dresser. Please state recent references, salary required, with usual particulars, and when at liberty. Apply, William H. Walker, Chemist, Willenhall, Staffs.

TUNBRIDGE WELLS.—Wanted, qualified Assistant (male), age about 26; accurate Dispenser, good Counterman. Apply, with full particulars age, height and experience, to W. A. Phillips, 125 Camden Road, Tunbridge Wells.

WEST-END.—Pharmacist, with good all-round experience; familiarity with Continental Dispensing and Specialities desirable. Apply, stating age, experience, and salary required, to 163/35, Office of this Paper.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—Assistant Dispenser required for part-time duty; must be qualified and accustomed to Hospital Dispensing. Apply to the Pharmacist.

ACTIVE, unqualified male Assistant required for Counter, etc.; must be good Window-dresser; personal interview preferred. Apply Wm. Fox & Sons, Ltd., 109-113 Bethnal Green Road, E2.

APRIL 13.—Live, qualified Manager to take full charge of branch with Rexall and Kodak Agencies; good house attached; opposite public gardens. Apply, with full particulars, references (photo if possible), and salary required, E. R. Dixon, West Hill House, Lincoln.

ASSISTANT, 30-40, for old-established Retail and Dispensing business; single; no N.H.I. or Photography. Usual particulars height, salary, etc., to Wootton, Chemist, Margate; photo if available. No reply in few days, respectfully declined.

At once; qualified or unqualified Assistant; tall and well educated; must be good Salesman and have competent Photographic experience. Please state details of previous experience, age and salary required, Chater, Chemist, Watford.

CAPABLE Junior Assistant, unqualified, male, for April 23; must be neat Dispenser. State experience, references and salary required (indoors). W. Cooper, 107 London Street, Reading.

COMPETENT male Assistant, qualified, required for City business, with experience of London Retail and Dispensing. Apply, with usual particulars, to "Chemicus" (P.C.B. 56/20), Office of this Paper.

FOR an important business in the West of England, an Assistant, holding an Optical qualification preferred, with a good knowledge of the Photographic trade, but not necessarily a qualified Pharmacist. Fullest particulars (including salary), "L. H. J.", c/o Wright, Layman & Umney, 50 Southwark Street, London, S.E.

FULL-TIME unqualified lady or gentleman, about 26; must be experienced at Counter, Dispensing, Photo, Stock-keeping; good recent references essential; also a part-time Assistant for Fridays and Saturdays (three kept). Full particulars, if writing, Ullett, 198 Rye Lane, S.E.15.

HALL CERTIFICATE.—Lady or gentleman Assistant wanted; quick and accurate Dispenser, Counter Hand and Window-dresser; knowledge of Photography essential. State age, salary required, and all particulars to Tomlinson, c/o Hague, 126 Albert Road, Widnes.

JUNIOR, willing, good worker, about 20, or middle-aged man if active, for a brisk Retail business with N.H.I. A. Rees, Chemist, 152 Mile End Road, E.1.

JUNIOR Assistant wanted for Retail and Dispensing business; knowledge of Photographic work desirable; no Sunday or Bank Holiday duty. Please state age, and give full particulars of experience, with references, stating salary required (outdoors). Dunn, 10 Horseley Fields, Wolverhampton.

LADY, qualified, required May 10 to manage branch on East Coast; permanency; must be well up in Toilets and Kodaks, and have excellent references; good Saleswoman essential; send full particulars, with photo if possible; state salary required; all applications acknowledged. 163/24, Office of this Paper.

LADY Assistant required for the Toilet Counter; must have previous experience in a first-class business. Apply Bruce's, Ltd., 28 Broadway, Ealing, W.S.

LOCUM.—Wanted, qualified Locum for last week in April or about and three weeks in July; must be first-class Dispenser. Rothstein, Pharmaceutical Chemist, 101 North Street, Leeds.

LOCUM, qualified, for small country town in Kent, three weeks, June 9 to 28; two assistants; light duties. Full particulars first letter to 162/30, Office of this Paper.

LOCUM, qualified, April 14 to 19, with view to summer engagement; must be reliable, all-round man. State full particulars and salary required, 164/36, Office of this Paper.

MESSRS. COOPER, SON & CO., LTD., require immediately qualified Assistants; previous West-End experience an advantage, though not essential; applicants must have good knowledge of Dispensing and be of gentlemanly appearance. Apply, with full particulars, stating age, salary, etc., to "A. J. B. C." 24 Sleane Street, London, S.W.1.

QUALIFIED Manager for branch shop about to be opened; N.H.I. and Photographic experience; preference given to man with Ship Medicine Chest Fitting experience. Apply by letter, with age, height, experience, salary required, and references or copies only testimonials, to Gardner & Weddell, Chemists, 135 Coatsworth Road, Gateshead-on-Tyne.

QUALIFIED lady required to manage new branch Pharmacy in residential district N.W. London; must be prepared to invest about £250 in the business and accept progressive salary; young energetic lady with ambition preferred. 163/25, Office of this Paper.

QUALIFIED Manager required, accustomed to Light Retail, Photographic and Dispensing (N.H.I.) business; good Counterman; permanent and progressive post; state age, experience, and salary required; single man preferred. "Manager," 163/200, Office of this Paper.

QUALIFIED Junior for Counter and N.H.I. State full particulars, including salary. Applications not answered in three days respectfully declined. A. S. Price & Co., Ltd., Blackheath, Birmingham.

QUALIFIED Manager (not over 40) wanted, early in April, for old-established Chemist and Seed business (knowledge of Seeds preferred, but not essential); good Salesman, Window-dresser, and accurate Dispenser; highest references essential. State age, experience, and salary required in first letter. Reeve, 6 Richmond Terrace, Shelton, Stoke-on-Trent.

QUALIFIED Assistant required early in May for quick Counter trade; good knowledge of Photography essential. Apply, stating salary required, age, height, etc., G. B. Osborne, 118 Broad Street, Reading.

QUALIFIED Assistant; experienced; reliable; good appearance; neat Dispenser. Replies unanswered in three days respectfully declined. Venables, 211 King Street, Hammersmith.

RELIABLE, unqualified Assistant required; must be well up in Photography and Counter work; undeniable references; outdoors. Photo and full particulars to Hadfield, Chemist, Matlock.

TIMOTHY WHITE CO., LTD., are opening several new branches in the South of England, and require first-class Pharmacists as Managers; permanency and good prospects. Apply Secretary, Timothy White Co., Ltd., Portsmouth.

UNQUALIFIED Junior Assistant; good Dispensing and Photographic experience essential. State full particulars in first instance by letter only. Applications not answered in three days respectfully declined. Secretary, Barnes & Crompton, Ltd., 114 Fishergate, Preston.

UNQUALIFIED Assistant, male, required early in April; reliable Dispenser and Counter-hand, with knowledge of Photography; permanency; no Sunday or evening duty. State full particulars and salary required to Densem, Chemist, Emsworth, Hants. Applications unanswered within seven days respectfully declined.

UNQUALIFIED Assistant for Developing and Printing Department, at seaside health resort; accustomed to high-class work and modern methods. Apply, with all particulars, salary required, and references, to 165/21, Office of this Paper.

UNQUALIFIED Assistant required. Give full particulars of age, experience, salary required, and copies of recent testimonials. Applicants, by letter, should send photograph, if possible, to Mr. A. Catto, c/o Catto, Ltd., 49 Cranbrook Road, Ilford.

UNQUALIFIED Assistant, young and capable, required for good-class business in Watford. Apply, with full details, 42/345, Office of this Paper.

WANTED, Senior Assistant with experience in good-class Dispensing and Photographic business. Please state full particulars and salary required to C. W. Higgins, 47 Market Place, Salisbury.

WANTED, thoroughly experienced unqualified Chemist's Assistant; no Sunday or holiday duties; close 12 noon Tuesdays. State salary required, when disengaged, together with fullest particulars and references. Applications to be in not later than first post Thursday, April 3, 1924, to Middleton & Tonge Industrial Society, Ltd., Long Street, Middleton, Manchester.

WANTED, Assistant; must be experienced Dispenser, competent at Counter, Window-dressing, and D.P. Full particulars of previous experience, age, height, qualifications (if any), salary, with photograph, to be returned. Schofield, Chemist, 195 Widmore Road, Bromley, Kent.

WANTED, qualified Assistant (young preferred); ready-money Retail and N.H.I. (only one assistant kept); letters not answered in seven days respectfully declined; main road; London, N.E. P.C.B. 56/19, Office of this Paper.

WANTED (Derbyshire), qualified Assistant, 30-35; accurate Dispenser; knowledge of Photography essential and Optics an advantage; must possess highest references; abstainer preferred. Letters not answered in 4 days respectfully declined. 165/37, Office of this Paper.

WANTED, at once, unqualified male Assistant for three weeks; outdoors; no Sunday or night duty; hours 8.30 a.m. to 7.30 p.m. Applications (not answered by return declined) should be addressed to Francis & Groves, 129 High Street, Guildford.

WANTED, at once, two unqualified Assistants and one Improver; good prospects; must have undeniable references. Apply 3 Ridgmount Street, Tottenham Court Road, W.C.1.

WANTED, shortly, a competent Assistant for a good-class Retail and Dispensing business, with Optics and Photographics; permanency. Kindly state full details of previous experience, age, height, salary required (outdoor), and when disengaged, to D. T. Evans, Ltd., Chemists and Opticians, Margate.

WANTED, two YOUNG, QUALIFIED MEN, age about 25, to train for Managerial positions; if keen and anxious to get on will be given a thorough grasp of business methods and ideas.

Only those who are prepared to put business first need apply.

Salary to commence £5 per week and commission. 42/344, Office of this Paper.

WANTED at once, smart Junior; knowledge of Photography; must be good Dispenser, willing and obliging. Apply, stating salary required, and with refs., to R. C. Harrison, Chemist, Haslemere.

YOUNG Lady, with Hall certificate, required as Dispenser for good-class business in Hampton Court, Rickmansworth and Hampstead districts. Apply 42/346, Office of this Paper.

WHOLESALE.

6s. for 40 words or less; 6d. for every additional 10 words or less, prepaid.

IRELAND.—Young qualified Irish Pharmacist required as Representative by a well-known London house to call upon Medical Men, Chemists, etc.; previous travelling experience not necessary, but preference given to one having both British and Irish Pharmaceutical experience. Give full particulars of previous experience, salary required, and, if possible, enclose a recent photo. 42/338, Office of this Paper.

A REALLY first-class Representative is required by Lancashire firm of Manufacturing Chemists to call upon Doctors and Chemists; must have represented in similar capacity. Give full particulars, which will be treated in strictest confidence. 42/342, Office of this Paper.

DRUGGISTS' SUNDRIES.—Traveller wanted. Applicants please state, by letter, ground worked and terms of remuneration expected. Heath Bros., Blackfriars Bridge, Manchester.

LEDGER Clerk, junior, required for City Wholesale Druggists; neat writer and quick at figures. Apply by letter, stating salary required, to A. B. C., c/o 42/350, Office of this Paper.

MANUFACTURING PERFUMERY (London district).—Man wanted, used to making Face Powders, Creams, Bath Crystals, etc. State age, experience, and wages required, in confidence, to 161/31, Office of this Paper.

OFICE Manager required, male or female, experienced in the trade of supplying Medicinal Preparations to the Medical Profession; must be efficient office organiser, hard worker, and able to control staff; energy, initiative, keenness on accuracy of detail, sound education, and competency in the keeping of accounts and records essential. Apply, with particulars as to age, experience, and salary asked, to 41/356, Office of this Paper.

QUALIFIED Assistant, male; must be good Dispenser and Counter hand; knowledge of Photography. Apply, stating age, height, salary required, and experience, Densem & Co., High Street, Exeter. Applications unanswered in seven days respectfully declined.

REPRESENTATIVE required to carry high-class Toilet Soaps bearing a commission of 10% in the following counties: Worcester, Hereford, Leicester, Lincoln, Nottingham, Derby, Rutland, South Wales. Please send full details in first letter to R. F. White & Co., Ltd., 34, Victoria Street, S.W.

REPRESENTATIVE wanted for Manchester and district for old-established Sundries House; good salary and commission offered; expenses paid; good existing connection. Will applicants state age, experience, and connection? 41/334, Office of this Paper.

REPRESENTATIVE for London required by a well-known firm of Manufacturing Chemists marketing a large range of branded Medicinal and Toilet Preparations; must have a successful record and a live old-standing connection with best London and Suburban Chemists. Apply by letter, giving fullest particulars and salary required, to "S" (P.C.B. 56/16), Office of this Paper.

REPRESENTATIVES wanted, with sound connections amongst Chemists, for the following districts: North-Western Counties, Eastern Counties, South Midlands, South and West of England, South and North Wales; liberal terms to good men. Apply, stating particulars, to Box 903, Smiths' Agency, Ltd., 100 Fleet Street, London, E.C.4.

REPRESENTATIVES required, with good connection among Chemists, Glasgow and the West, Edinburgh and East Coast, to push, as a side line, well-known Proprietaries; commission basis. State lines handled, ground covered, etc., to 161/39, Office of this Paper.

REQUIRED, Representatives for General Toilet House for East Coast, South Coast and London; small salary and liberal commission to commence; also Representatives, preferably qualified, for Eastern Counties, Hants. and Lincs., and for Southern Counties for professional firm giving service on 20 per cent. commission. 42/348, Office of this Paper.

WANTED, Traveller, with connection amongst Chemists in the North of England, to represent well-known Proprietary House. Write, stating age, salary required, and full particulars, to 42/340, Office of this Paper.

WET Floor Assistant required by City Wholesale Druggists. Apply, giving fullest particulars, to 42/349, Office of this Paper.

WHOLESALE Druggist Sundries House requires Representatives for Lancashire and Yorkshire, and North and South Wales, with connection essential; whole or part time. 165/34, Office of this Paper.

[COLONIAL, INDIAN AND FOREIGN.]

AUSTRALIA.—Well-known firm of Manufacturing Chemists requires the services of a single, young, live, and energetic Representative to call upon Doctors; qualified preferred. Reply to 41/337, Office of this Paper, enclosing photo, and stating age and experience, also salary required.

CEYLON.—Chemist, Dispensing, wanted for large British firm in Ceylon; smart, qualified Junior Assistant, gentlemanly appearance, single, 23-25, with good-class Retail Dispensing and Counter experience; 4 years' agreement; passage paid; good salary and allowances. Write, with copies of testimonials, to Box E. 373, Willing's, 119 Moorgate, E.C.2.

INDA.—A well-known London House, specialising in the manufacture of Tablets and Pills, invites correspondence from gentlemen at present calling on Retail Chemists in India, with a view to representation on a commission basis. Applications, giving full particulars in first letter as to territory, experience, etc., will be treated in strict confidence. "Statice," 40/298, Office of this Paper.

PILL Maker wanted, first-class all-round man, unmarried, for a healthy British Colony; three years' agreement; passage paid out; salary first year £22 month, second year £24, third £25. Apply, by letter only, to "C. M. N." 35 Alexandra Crescent, Bromley Hill, Kent.

SITUATIONS WANTED.

RETAIL.

[HOME.]

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ACAPABLE and thoroughly experienced Manager requires a post; qualified; 28; excellent references; good Salesman and Window-dresser. "Statim," 26 Wrentham Avenue, Kensal Rise, N.W.10.

A QUALIFIED Assistant (Silver Medal), 23, at present on Riviera, desires situation, West-End, seaside or spa preferred; all-round experience; Photography. Edwards, c/o Chez Grasgruin, Pharmacie-Anglaise, Beaulieu-sur-Mer (A.M.), France.

ADVERTISER, aged 20, no previous experience, seeks vacancy for training for Hall Certificate; energetic and willing. Write "G.," "Roxana," Berries Green Farm, Biggin Hill, Kent.

AS experienced or Senior Assistant; 39; tall; free 29th; 20 years Dispensing, Photo and Window-dressing; well recommended; easy distance of Birmingham or London preferred, but not essential, for sound, permanent berth. 166/6, Office of this Paper.

ASSISTANT; 31; unqualified; married; first-class Counterman and Dispenser; 14 years' experience in all branches; Window-dressing, Photography; capable taking charge; interview preferred. "Statim," 102 Lansdowne Road, Aylestone Park, Leicestershire.

ASSISTANT, 26, married, with good knowledge of Dispensing, Counter-work and Photographic trade, seeks position; country preferred; good references. 165/9, Office of this Paper.

ASSISTANT or Manager; experienced; energetic; reliable; middle-aged; good Salesman; moderate salary; unregistered; disengaged. "Energy," 14 Hubert Grove, Stockwell, S.W.9.

BURTON MIDDLETON, M.P.S., Pharmacists' Locum, at liberty; town or country; now booking for Easter and summer holidays; no July dates vacant. Address, 20 Merton Avenue, Chiswick, W.4.

DISENGAGED April 19.—Pharmacist, 25, desires post in high-class business; London Dispensing experience; references. "Chemist," 5 Rosemount, Bolton, Bradford.

DISENGAGED.—Minor qualification; male; Locum or permanency; moderate terms. "Pharmacist," 68 Grosvenor Road, Hanwell, W.7.

DISENGAGED.—Permanent or relief; Dispensing or Counter; unqualified; 45; single. Edwards, 70 Abingdon Villas, Earl's Court Road, W.

DISENGAGED.—Qualified; permanency, Locum, or book Wembley; thoroughly experienced. Wire, Robinson, 42 Shepherd's Bush Road, W.6.

DISPENSER, qualified, experienced, wishes post with Doctor or Institution. Apply Miss Knox, 131 Alexandra Road, Maida Vale.

EXPERIENCED, competent, unqualified Senior Assistant; nearly 20 years' Counter, Dispensing, country, seaside; highest references; married; permanency; good berth required; business builder; capable taking charge; disengaged; start at once; interview preferred. T. F. Johnstone, Verulam Hotel, Watford.

NAMES AND ADDRESSES.

When sending advertisements for any of the sections in this Supplement, advertisers—as a guarantee of good faith and not necessarily for publication—should always give their names and addresses. It sometimes occurs that this rule is not followed and delay and disappointment ensues. Strict attention to this detail will be appreciated.

JUNIOR, 22, seeks experience; 3 years' apprenticeship; Dispensing and Photographic knowledge; Yorkshire preferred. Wishart, 4 Trafalgar Street, York.

JUNIOR Assistant requires post (West of England preferred); tall, good appearance, disengaged; quick and accurate Dispenser, Counter; good references. Apply 165/6, Office of this Paper.

LANCASHIRE.—Qualified man, 23, requires situation with Catholic employer; good experience in Retail trade and Dispensing; knowledge of Photography; good references. Write 163/28, Office of this Paper.

LADY Dispenser (Hall) wishes post with Doctor, Hospital, or Institution; N.H.I., Book-keeping, and Typing if required; doctor's reference. S. James, 34 Swinburne Road, Abingdon, Berks.

LADY Assistant requires post with Chemist; 7 years' experience with one firm; quick Counter, Dispensing. E. Williams, 98 Severn Road, Weston-super-Mare.

LOCUM, experienced, qualified Chemist, now booking engagements for season; excellent references; shortly disengaged. "Pharmacist," 32 Harrington Road, Queen's Gate, S.W.

LOCUM.—Miss E. M. Wood, Pharmacist, Arnold, Nottingham, is now booking dates.

LOCUM.—Qualified lady free for engagement from May 5; thoroughly experienced; London preferred. "Chemist," 36 York Street, Baker Street.

LOCUM.—Experienced; first-class references; booking dates Easter onward; terms moderate; abstainer. "Chemicus," Evans Lescher Webb, Chemists, Liverpool.

LOCUM.—Disengaged; unqualified; age 23. Neal, 28 High Street, Tonbridge.

LOCUM or otherwise; disengaged; thoroughly competent Dispenser and Counterman; capable of management; highest references; terms reasonable; abstainer; unqualified. "G.," c/o Mr. Mousley, 34 Crouch Hill, N.4.

M.P.S. DISENGAGED shortly, accustomed to control of large staff; experienced in sound business methods, requires responsible position as Manager; highest references; London preferred. 166/13, Office of this Paper.

M.P.S. SMART, active, with long experience as Manager, requires similar post in London or Home Counties; good organiser and Dispenser; general knowledge of Photo; careful buyer and accustomed to control. "Pharmacist," 204 Stapleton Hall Road, Stroud Green, N.4.

MANAGER, with view to Partnership or succession; experienced; Photography; married; 35. 165/27, Office of this Paper.

MANAGER; qualified; married; high-class experience in all branches, Photography; several years' managing experience; used to control and buying; conscientious and obliging; living accommodation preferred; London or near. 164/38, Office of this Paper.

MANAGER or Locum; good Counterman and Dispenser, with all-round experience; qualified. "Henricus," 66 Vancouver Road, Forest Hill, S.E.23.

PART-TIME work required by young lady; Hall qualification; Book-keeping; experienced Doctors and Hospital. "D. E. F.," 65 Mayfair Avenue, Ilford.

PHARMACIST, 36, married, experienced and well recommended, requires post as Senior or Manager. 164/33, Office of this Paper.

QUALIFIED; 7½ years' experience, Dispensing (N.H.I. and Private), Counter, Photography and Windows, etc.; good appearance; tall; excellent references. "Rhei," 166/2, Office of this Paper.

QUALIFIED; thoroughly experienced in all departments (Dispensing, Photography, etc.); hard worker; abstainer; married. E. Robinson, 19 Derby Road, Croydon.

UNQUALIFIED, experienced, seeks situation as Assistant or Manager of Drng Store; would consider purchase of same; good reference. P.C.B. 56/18, Office of this Paper.

UNQUALIFIED; age 23; tall; North-East preferred; Photography, Window-dressing. 163/38, Office of this Paper.

YOUNG lady, 23, unqualified, requires post with Chemist or Doctor; 5 years' experience, Dispensing and Counter; please state salary. Apply "M. A.," 30 Norton Street, Grantham.

WHOLESALE.

2s. for 18 words or less; 6d. for every additional 10 words or less, prepaid.

The ADVERTISER may if preferred have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

ABLE Sales and Buying Manager, 35, with 15 years' Continental and Colonial experience, seeks responsible situation, home or abroad; Partnership considered; also with sound Agency firm; good linguist and correspondent. Letters, "Energetic" (P.C.B. 55/14), Office of this Paper.

ASSISTANT Chemist, 23; 3 years' technical training, London University; B.Sc. (Chemistry); willing to take any post in keeping with qualifications. M.L. 5673/23, Office of this Paper.

EX-OFFICER, A.I.C., 43; married; educated Public School; good knowledge French; one year's experience Assistant to Analytical Chemist, eight years Manufacturing Chemist; willing to take any post. M.L. 5977/22, Office of this Paper.

EX-OFFICER, 30, single, educated Public School, 3 years University, Intermediate Physics and Chemistry, some knowledge French, 4 years' Laboratory experience, good knowledge Electrical Engineering, desires post, preferably in Chemical Works or Oil Refinery. M.L. 34284, Office of this Paper.

PROFITABLE EXPERIENCE OFFERED.

I AM a Pharmacist; have occupied high managerial position in large firm Manufacturing Chemists; original ideas for developing Sales of Proprietaries, Packed Pharmaceuticals and Toilets; interview solicited. 166/12, Office of this Paper.

MAN, 30, Wholesale Drug experience, requires situation, Counter or Warehouse. "H. M.," 49 Treverton Street, London, W.10.

M.S.C. (Hons.), B.Sc. (1900), 44, single, desires Chemical, Metallurgical or Commercial post; experience as Chief Chemist and Manager of Chemical Manufacturing Co.; also as Chief Chemist and Metallurgist in Metal Co.; sound experience all branches; is willing to take any post suitable to qualifications. M.L. 71755, Office of this Paper.

GENTLEMAN, excellent connection South London and South Coast, desires to represent first-class house; salary and expenses. 165/18, Office of this Paper.

MAKING ADVERTISING PAY.

PRESENT cost of Advertising demands that every word shall possess full selling power. Chemist, with original ideas and complete knowledge of Advertising, in all its branches, is open for a position. 166/120, Office of this Paper.

PIONEER Salesman, recommended by leading firms, desires engagement London, Birmingham, Manchester, Liverpool, South Coast; 18 years' experience. "Energy," 42/343, Office of this Paper.

WORKS OR LAB.—Ex-Officer, 33; married; educated Public School, University, B.A. (Nat. Science Research), Cantab.; experience in Research work and demonstrating, also as Manager of Chemical Extraction Plant, steam and electric machinery; conversant Commercial Book-keeping. M.L. 1826/22, Office of this Paper.

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MCADAM & TUCKNELL, Stock and Share Brokers, Bank Chambers, Blackheath, S.E.3. Established 1898. Telephone: 81 Lee Green. Shares for Sale, free of commission (subject):—**HIRST, BROOKE & HIRST, LTD.**—100 £5 fully paid 5% Preference, offers wanted for whole or part.

200 Boval Australia Prefd., 16s. 7½d.; 2,000 Cuba Baltic Sugar, 4s. 7½d.; 100 H. Crosfield 7½% Pfs., 21s.; 800 Ilford 5% Pfs., 18s.; 400 G. B. Kent 5½% Pfs., 14s. 6d. Wanted (subject):—Allenbury.

SECOND-HAND CHEMISTS' FITTINGS.—We have an exceptionally fine selection of these in all sizes; prices are right, and goods are in first-class condition; we shall be pleased to supply particulars and prices. Call or write, RUDDUCK & CO., 262 Old Street, London, E.C.2.**C**HEMISTS' Second-hand high-class Fittings, recently removed from West-End Pharmacy, including Drug Fitting, Wall Cases, Dispensing Screen, Counters and Silent Salesman, etc.; bargain. H. MILLS & SONS, LTD., Shopfitters, 163-5 Old Street, London, E.C.**L**IMITED COMPANY FORMATION.— Before placing your Company in other hands, get my quotation. I specialise in Chemist and tradesmen private companies and quote inclusive charge; no extras. A. B. Slack, 180 Garston Old Road, Liverpool.**S**TOCK and Trade Utensils with Formula of Medicinal Salts for Sale. Communicate with Alspa, Ltd., Box 435, Frost-Smith Advg. Service, 66 Finsbury Pavement, E.C.2.**£144** SET of complete mahogany Shop Fittings.—7 ft. handsome Dispensing Screen, 7 ft. Wall Case, 10 ft. Counter Case with cases in front, plate-glass Counter Case, two nests of Counter Drawers, 12 ft. Drug Fitting, Perfume Case and Desk, all-glass Counter; can easily be adapted. PHILIP JOSEPHS & SONS, LTD., 93 Old Street, London, E.C.1.**EXCHANGE COLUMN.**

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WANTED.**ONE O'BRIEN Receipt-giving Lock Till.** Address, 163/15, Office of this Paper.**DEVELOPING TANK,** size about 30 x 9 x 9. H. Clarkson, 115 Elland Road, Leeds.**PHARMACEUTICAL Books** wanted; send priced list. Gower, Bookseller, 41 Voltaire Road, Clapham.**ESTIMATES** wanted for complete Second-hand Fittings for branch shop. 161/23, Office of this Paper.**MOULDS, Passary, Suppos., Cachet, Pill Machines, Dispensing Scales.** Particulars, "Nitron," 11 Whatley Road, Clifton, Bristol.

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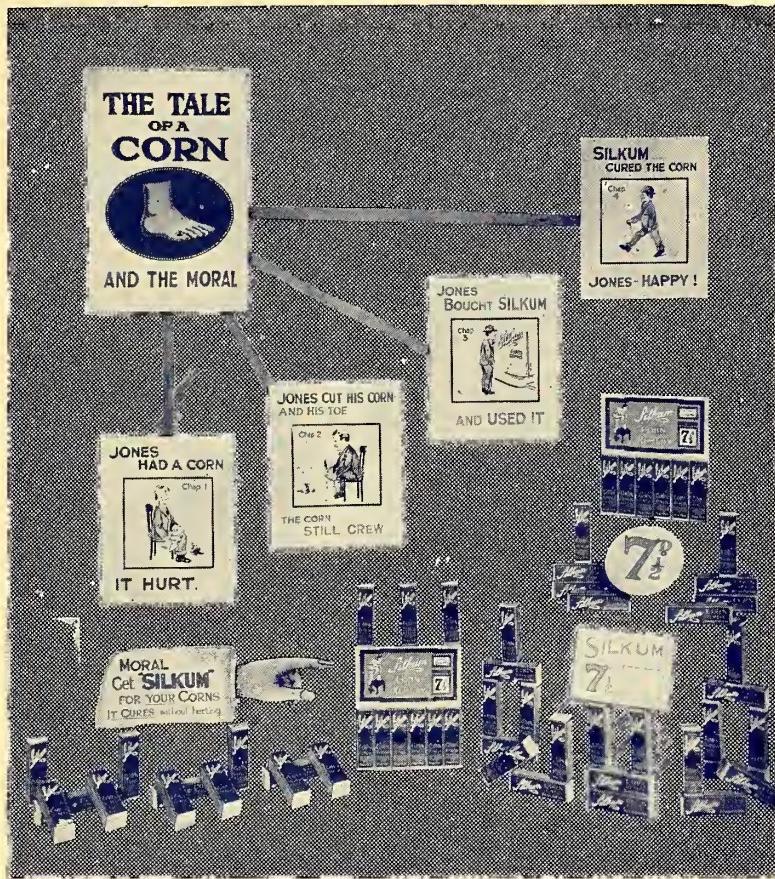
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